The OIL WEEKLY
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OIL and GAS ENGINEERING
FOR OIL AND GAS PRODUCTION, REFINING AND PIPE LINE DIVISIONS

IT PAYS TO USE MODERN EQUIPMENT

For the safe, convenient handling of all strings of tubing, BJ Tubing Hooks are made in three sizes—"30", "50", and "75"—The numbers indicate their recommended load capacity in tons, with an ample factor of safety. The new "locking arm" closes and locks automatically when the links are picked up and prevents their "jumping" the hook. By joining the bill and the body of the hook, this locking arm forms a C-link, provides great strength, and prevents metal fatigue and crystalization due to repeated flexing under load. A grease gun connection permits easy lubrication of the protected ball bearing and relief spring (in the two larger hooks)—and the universal joint action provides free swiveling and convenient handling.

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ENGINEERING « STATISTICS » THE WEEK'S NEWS

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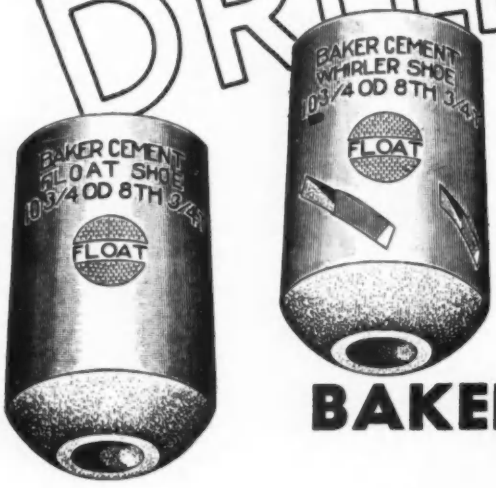
DRILLABILITY *the* BIG IDEA



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Baker provides complete Drillability by using a bakelite valve assembly imbedded vertically in Baker-Formula Concrete, so that only a small cross-section of bakelite is contacted by the drilling bit which rapidly and with minimum vibration drills both bakelite and concrete to small, harmless fragments.

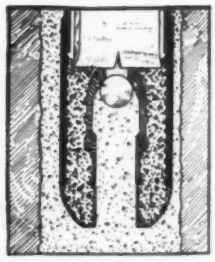
These small particles of bakelite and concrete then circulate out of the hole with rotary mud, and the bottom of the hole is left free from metal or other dangerous materials which interfere with drilling and coring immediately below the shoe.

Baker offers you a better, safer way to guide, float and cement your casing, plus Drillability which is a Big Idea in securing a permanently profitable well.

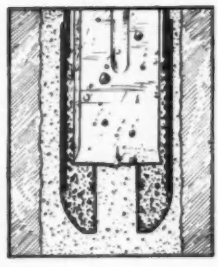
Concrete mixed by the Baker Formula has more than three times the strength of ordinary concrete, under actual test withstanding more than 7,000 pounds compression per square inch. Yet it is easily ground up by the bit, and circulated out of the hole.

Bakelite is a resin-like substance formed when carbolic acid is treated with formaldehyde and combined with powdered wood flour. The resultant mixture is moulded according to Baker Specifications for heat and pressure, to provide a strong and efficient ball-valve assembly.

Notice the streamlined passageways which permit unrestricted circulation of cement. The buoyant bakelite ball, which floats in ordinary rotary mud, moves up the instant back-pressure occurs, to provide a leakproof double seal against rubber and bakelite.



When the bit is applied to drill out the plug, you appreciate the Big Idea. Rapidly and with a minimum of vibration, the concrete and bakelite are drilled up into small, harmless fragments.



As the bakelite and concrete are drilled out, the small particles circulate out of the hole with the rotary mud. No metal or other objectionable fragments are left in the hole. Baker Drillability leaves a hole ready for safe drilling, or immediate coring.

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VOLUME 74, No. 12 SEPTEMBER 3, 1934

THE OIL WEEKLY

FOR OIL AND GAS PRODUCTION AND
PIPE LINE DIVISIONS

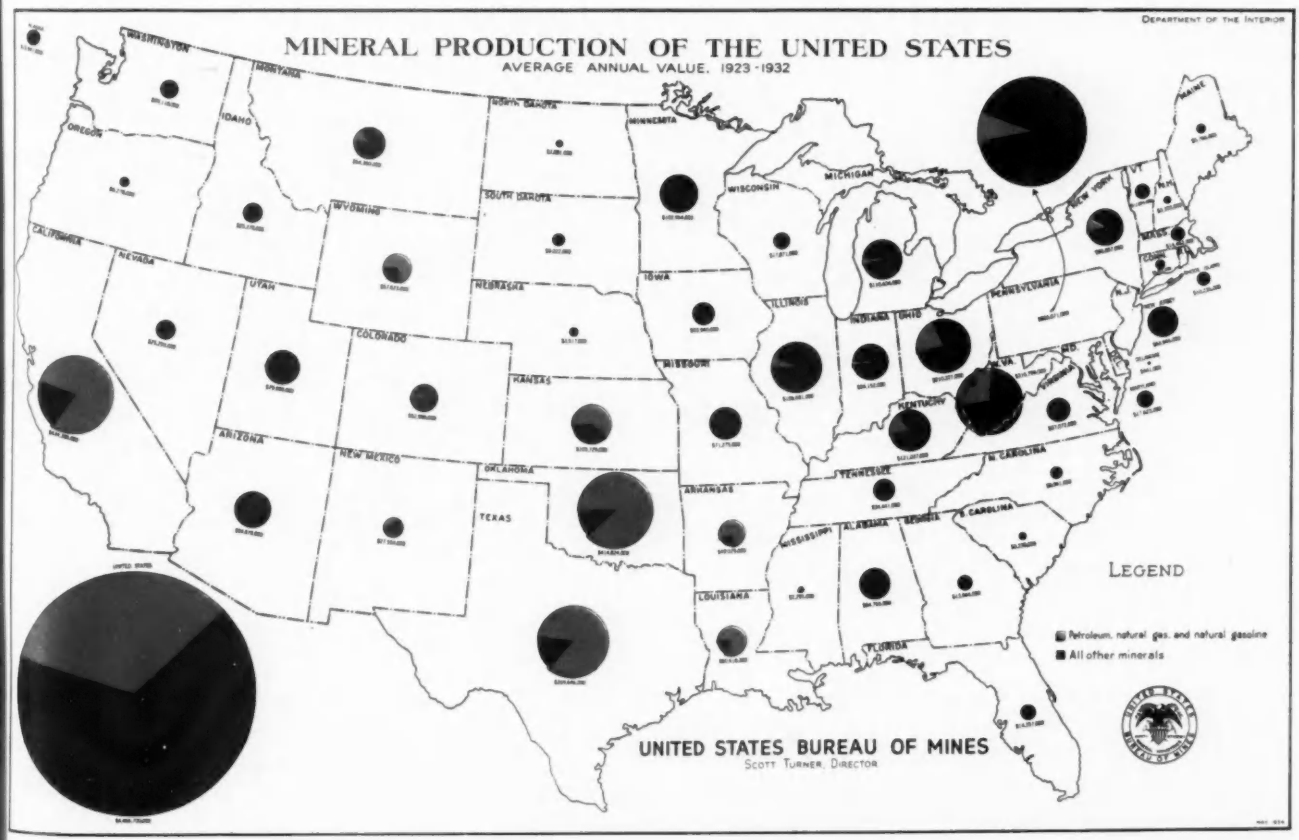
ENGINEERING • NEWS • STATISTICS

The Changing Panorama

The three principal oil producing states: California, Oklahoma and Texas, rank second, third and fourth among the states in total average annual value of all minerals produced in the United States. And while each of these three states have important production of other minerals, petroleum is the principal item of their mineral wealth. These facts are graphically shown on a map prepared by the United States Bureau of Mines, using the figures for the latest ten years upon which figures are available. The original map from which the accompanying reproduction was taken shows in four colors the several classes of minerals, while the accompanying map only shows the division as between petroleum and others.

To many it will be a surprise to see which are the principal producing states, where lie the most productive areas, and how large oil and gas loom in the totals—even the largest mineral producer (Pennsylvania) being helped substantially in its total by petroleum.

Total 10-year average of all minerals production for the United States is shown to be $4,466,700,000, and


DEPARTMENT OF THE INTERIOR
MINERAL PRODUCTION OF THE UNITED STATES
AVERAGE ANNUAL VALUE, 1923-1932
LEGEND
Petroleum, natural gas, and natural gasoline
All other minerals
UNITED STATES BUREAU OF MINES
SCOTT TURNER, DIRECTOR

a third of this, or $1,488,900,000 is from petroleum. Coal is the only other single item that approaches petroleum in total value.

Stripper Wells

It has often been remarked that the hundreds of thousand of stripper wells are the back-bone of the petroleum industry. Without question they are a large and vital part and their operation is of importance. Operating economies are necessary if they are to be produced profitably.

Approximately two years ago development started on some shallow, small-producing leases near Parsons, Kansas. The operating company has perfected many economies during this time, and the property is being operated at a profit. How this has been accomplished, with wells averaging approximately two barrels per day of 30 gravity oil, is a good example of ingenuity and a lesson in economy of operation. Page 22.

Encroachment of water into producing oil wells results in a greater loss of oil than all other agencies combined. Water infiltration may come from a number of sources, and frequently existing conditions may be corrected with the result producing costs are lowered and a greater ultimate recovery is obtained.

The first requirement in attempting to overcome water intrusion is to determine the source of the fluid. Determination of water sources in oil wells has developed into an exact science in California. It is possible now to locate water sources in high-pressure, large volume flowing wells — another engineering achievement. Page 24.

The Oil Man's Calendar

SEPTEMBER

10-14 *American Chemical Society, Cleveland, Ohio.*
17-21 *House Oil Investigating Committee Hearing, Washington, D. C.*
19-21 *National Petroleum Association, Atlantic City, New Jersey.*

OCTOBER

1-5 *National Safety Council and American Society of Safety Engineers, Cleveland, Ohio.*
12-13 *A. I. M. E. Petroleum Division, Tulsa, Oklahoma.*
16 *Mid-Continent Oil and Gas Association, Kansas-Oklahoma Division, Annual Membership Meeting.*
29 *American Gas Association, Atlantic City, New Jersey.*

NOVEMBER

12-15 *American Petroleum Institute, Dallas, Texas.*
13-24 *House Oil Investigating Committee Hearing, Dallas, Texas.*
25 *House Oil Investigating Committee Hearing, Los Angeles, California.*
American Association of Petroleum Geologists (Pacific Section), Los Angeles.

Texas Commission Secure

Further legislation involving the oil industry in Texas is not in prospect at this time, although the legislature is in special session. The session was called to issue bonds for employment relief and the governor has said that additional questions may be submitted when that subject has been disposed of. Two members are known to have minor oil bills to offer in case that question is opened, but there is no notice that there is prospect of a proposal for a new commission to handle oil matters. Talk of this is perennial in many quarters, but there is no crystallized belief on the part of the legislators that any good could be accomplished by such a change at this time. Another angle is expense of an additional board, and all members of the legislature are committed to a program of economy. Results of the recent election returning the one member of the present commission who was a candidate to office, is in the nature of a vindication of the body in so far as the voters at large are concerned. And action this week indicates that the commission is getting conscious of the possibilities of aggressiveness in handling the legal problems of curtailing East Texas.

The Texas Railroad Commission apparently is making its most determined fight to control hot oil movement in the East Texas field. Early in August it issued hot oil orders that required tenders be furnished on every barrel of processed crude moved from East Texas. This proved to be the most effective weapon yet found in eliminating hot oil, but court injunctions restrained the commission from enforcing the order.

Unlike its action in the past, the commission members did not give up, but rewrote the order. Again they were enjoined from enforcing the order, but again they have taken the offensive. A new set of rules have been issued, but not until the commission obtained injunctions against those who attacked the previous orders.

The commission is to be congratulated on its determined fight, the outcome of which means so much to the petroleum industry's welfare, especially during the approaching winter months. Page 9.

Operators in the new Cooper field, Lea County New Mexico, met in Tulsa early this week and agreed to hold their 1934 campaign to 25 wells, providing code authorities will amend quota to such amount. The field, which is being developed on a 40-acre spacing basis, will have a reckless drilling campaign unless the proposed plan is adopted. Cooperation shown by operators of this pool is unique, although probably selfish in view of the fact that they are also principal operators in the Hobbs field, which would necessarily have to be cut back in production if the Cooper field is developed rapidly.

Bureaucracy Loses Ground

Big companies begin openly opposing governmental restraints. Further weakening of oil code enforcement seems likely to result, and chances decline for new federal oil law of the Thomas-Disney type.

JACK LOGAN
Associate Editor

PROBABLY the most significant development in the petroleum industry in recent months has been the pronounced change of attitude of big companies toward the nationalization of the oil business as undertaken through NIRA and the oil code and as contemplated under proposed new federal oil control legislation. After a year of unshaken silence, which presumably gave consent to the new order of things, the major companies are beginning to assume critical or hostile attitudes with respect to "new deals," even as big concerns in steel, automobile, and other industries began to do months ago.

The new attitude was demonstrated August 15 in the address of C. B. Ames, chairman of the board of The Texas Company and former head of the American Petroleum Institute, before a group of engineers at Johnsonburg, New Jersey. It was exemplified again August 27 in the speech of Axtell J. Byles, president of the American Petroleum Institute and former president of Tide Water-Associated Oil Company, in a speech at the Drake Well Memorial Park, Titusville, Pennsylvania.

Significance of Growing Opposition

This change of heart (or revelation of true heart) of large oil companies is significant because of various implications. It presages harder sledding for the oil code bureaucracy in NIRA's declining months, with the base voice of majors joining the tenor of Darrow boards and numerous independents and the falsetto of the public in a chorus of discontent. At the same time, the new disposition of prominent big companies foreshadows increased opposition to the Ickes federal oil control bill that will be re-born in Congress next January. While independents fought the bill fiercely enough last spring to cause its temporary defeat, the majors stood for the most part on the sidelines, some of them mildly cheering one side, some the other, but most of them maintaining silence which seemed to be born of indecision.

Control Through the Code

At its best the NIRA oil code has not been enforced with noteworthy success, and ineffectiveness has resulted mainly from lack of support of some independents. The only court attacks against the code program so far have been by independents. It is obvious, consequently, that the partial success of the program has been due largely to big company support and cooperation, and that the code enforcement must necessarily suffer further with any withdrawal of big company cooperation, either in the form of court attacks or of mere passive resistance.

The large companies appear content enough with federal regulation of crude production, considering the present extraordinary potential of flush production. But they begin to chafe under the interference with their refinery operations, and to fret under government orders and instructions as to their marketing activities.

But the refining and marketing provisions are as much parts of the oil code as the restrictions laid down for well owners of East Texas or Michigan, and any tearing down of the refining and marketing control is likely to result in weakening of the whole program, including the desired production control. Whether or not the production control is worth its price has been a question hard for the large companies to decide, but the present signs indicate that decisions in the negative are due to become conspicuous.

And so there seems to be increased trouble ahead for the NIRA oil code, apart from the tests it must stand this fall in the United States Supreme Court, where two pertinent cases are pending.

Chances Smaller for New Law

The increasing apprehension of major companies concerning governmental interference comes at a time when it may prove disastrous to the proponents of such proposed legislation as the defeated Thomas-Disney bill. For September is the month scheduled for resumption of investigation by the congressional subcommittee headed by Congressman William J. Cole of Maryland.

When the committee swung down through Oklahoma and Texas in July the only efforts to convince its mem-

bers either way were by independent operators and state oil control agencies.

It was beginning to appear that the investigation would elicit only arguments for a new law by the oil administration and arguments against it mainly by Texas independents, as in the congressional committee hearings at Washington last spring.

In consequence of the new turn of events, however, it appears that large companies may join their dear enemies, the independents, in urging the investigating committee to report to Congress in opposition to stronger federal control. Obviously, the opposition to the bill would be greatly strengthened with major company participation, because of the convincing evidence and propaganda which the big concerns could muster.

What, If Not a New Law?

To talk of possible active opposition by the big companies to the NIRA oil code and the contemplated federal legislation may seem, at first thought, strange or incredible. After all the years of crusading by majors for conservation and regulation, even at the cost of precious concessions to government!

It is, indeed, a somewhat paradoxical situation. But the talk is not far-fetched or fanciful. It is backed by evidence, and does not seem so strange in the light of all the circumstances. For the big companies still have their ideal of orderly and conservative development of oil reserves, and will hold onto them even if they go generally against stronger federal control. They will cling to their ideals by sponsoring alternative plans or programs.

Interstate Compact Advocated

In fact, agitation has already gotten underway advocating abandonment of bureaucratic control in favor of different regulation. In his speech, mentioned above, Judge Ames revived the Federal Oil Conservation Board idea of a Congress-sanctioned agreement among leading oil producing states for achieving proper regulation. The plan would be unquestionably constitutional, he asserted, and would involve no insuperable difficulties. It would provide for a commission composed of state and federal representatives, with contracting states enforcing their obligations within their respective borders.

Such a plan was presented to Congress several years ago, it was pointed out, and received a sympathetic hearing, but failed of passage. The plan would have better chance of passage now, however, it was indicated, as the problem has grown more acute, while the situation has become better understood.

Through cooperation with the states in a plan of this nature, involving only the control of crude production, the federal government would be completely fulfilling its one and only duty regarding petroleum, the executive asserted, that duty being conservation of a limited natural resource for the good of the people as a whole.

At the same time, he indicated, the federal government would be steering clear of grave doubts which would be raised from a constitutional standpoint by any federal oil control law proposing to regulate production. Such doubts would arise, it was suggested, whether the government proposed to regulate production either directly or by the indirect method of regulating oil shipments, as contemplated in the Thomas-Disney bill.

Compact Idea Attractive to Majors

While it is possible that other plans also will be proposed as substitutes for the Ickes type control, the interstate agreement plan would naturally attract a strong following among the big companies. For it would give the production control advantage of the NIRA oil code without the refining and marketing disadvantages.

Just how popular the refining and marketing restraints are, may be indicated, perhaps, by quotations from the Ames speech. Concerning oil code refinery control and the East Texas and California gasoline market stabilization plans, it was stated that " . . . this program is, at best, a makeshift—a temporary expedient and cannot be regarded as a permanent solution. No bureau in Washington and no committee of the industry can be long allowed to dictate to every refiner how much gasoline he may produce. The right of an individual to conduct a lawful business in a lawful way without control, either by his competitors or by a Washington bureau, is too fundamental to be long relinquished. It must also be borne in mind that refinery control . . . . would be entirely unnecessary if government would discharge its duty of conserving the crude oil supply."

Concerning marketing regulations under the code, reference was made to the daily modifications, interpretations, alterations, or cancellations promulgated by the oil administration and theoretically made into law when released to the press. "No problem of the industry is so simple and none so complex," it was commented, "that the administrative bureau in Washington will not undertake to solve it by this system of leaflet law and press release. Such slight advantages as the marketing code ever had are being rapidly buried beneath these accumulating drifts of typewritten paper."

Dovetailing nicely into the ideas of Judge Ames were those enunciated by Mr. Byles (THE OIL WEEKLY, August 27, 1934, page 10), when he said that " . . . beyond the supply of raw material, the hand of government should be removed and, in the public interest, competition as to price and quality and service begin."

Texas Commission *Obtains Injunctions And Rewrites* Hot Oil Orders

Austin, Texas.—The Texas Railroad Commission has again taken the offensive in the war on East Texas refiners who have been evading hot oil orders.

In an order issued at Austin on Thursday, August 30, provision is made for tenders to be furnished on every barrel of processed crude moved from the East Texas field, and transporters are forbidden to accept for transportation any oil not so approved.

Before the order was made public, injunctions were obtained against all refineries that had attacked the previous orders covering this subject, and the four railways servicing East Texas were enjoined from accepting any oil that did not carry with it the tenders as provided.

This is the third time the railroad commission has been forced to change this order. The first order was issued on August 4, and was enjoined shortly thereafter. A corrective order issued on the 16th of the month met with the same trouble.

In each instance, suits brought against these orders alleged that the requirements of the commission were so burdensome on the refiners and reclamation plants that they could not comply with the order. Nowhere in the new order are either of these classes of plants mentioned.

Monthly Reports

Rule 10 of the new order has been revised to require that every person "owning, operating and managing a pipe line or gathering line through which crude oil and/or crude oil products are transported within or from the East Texas oil field, shall, on the 20th day of each calendar month, file in duplicate with the commission's agent in charge of said field at Kilgore, Texas, a report duly verified showing the operations of the reporter during the next preceding calendar month, and containing the data hereinafter required and in the manner thereon prescribed on the form adopted by the commission. The term "pipe line" shall include any pipe line transporting crude oil and/or crude oil products thereof as a common carrier or as a private carrier, any pipe line or part thereof transporting for hire crude oil and/or crude oil products thereof, transporting its own crude oil or crude oil products thereof, or transporting crude oil or crude oil products thereof of another person, all gathering pipe lines, all trunk pipe lines and all pipe lines carrying crude oil to any refinery operating in said field . . ."

The requirements set out are unchanged from those in previous orders.

In Rule 11, however, changes are more drastic.

"A. Every person owning or possessing crude oil products located within the limits of the East Texas oil field who desires to tender such crude oil products to any other person for transportation, sale, storage or delivery, shall first secure from the railroad commission at its office in Kilgore, Texas, a permit in writing authorizing such person to have such crude oil products so transported, sold, delivered or stored. Before said permit shall issue by the railroad commission, such person shall be required to file in the offices of the railroad commission at Kilgore, Texas, a report in writing, supported by affidavit, on the form prescribed by the commission . . ."

These reports must show a history of the source of the oil, back to the time it was crude, and must show the source of that crude.

"In the event the person tendering crude oil products received the products as such, application for subsequent movement shall bear the serial number of the railroad commission tenders (Form E-N-4) under which such crude products were received and the tender numbers of the crude oil to the original processor shall not be required.

"One of the duplicates, originals, or authentic copy of such permit shall accompany any subsequent delivery, handling or movement of the crude oil

House *Oil Investigating Committee* Sets Hearings

Washington.—The Cole subcommittee of the House Committee on Interstate and Foreign Commerce will conduct public hearings in Washington for one week beginning September 17, it was announced here following a meeting of the group.

At the hearings to be held here, any one interested therein, outside of the Mid-Continent areas and California, will be permitted to appear. Later the subcommittee will go to Dallas for hearings to be held from November 13 through November 24, headquarters being maintained at the Hotel Baker. From Dallas, the party will go to Los Angeles for hearings from November 25 to December 7.

One day of the Washington hearings will be devoted to the receipt of testimony by oil men from Pennsylvania, at the request of the Pennsylvania Crude Association. Others to be heard will include oil men who served on the Committee of Eleven, appointed by the American Petroleum Institute in 1926 to cooperate with the Federal Oil Conservation Board, which found that there was "no immediate danger of exhaustion of the petroleum resources of the United States," and, inferentially, no need for its conservation.

It could not be learned why the Petroleum Institute Committee was to be called before the subcommittee, it merely being explained by Representative William J. Cole (Dem., Md.), chairman, that it is desired to get the benefit of the exhaustive study made of oil by the group in 1926. It was commented that the findings of the committee were printed but are considered obsolete in many respects.

Those of the Committee of Eleven residing in Texas or California will not be asked to come to Washington but will be "interviewed" in Dallas and Los Angeles.

It is pointed out that where any oil man is "invited" to appear before the committee, if failing to accept the "bid," he can be subpoenaed under the authority conferred upon the members by the House at the last session. Their testimony would be taken under oath.

products covered by the original affidavit hereinabove provided for (or of an equivalent amount of such crude oil products where same have been commingled with other crude oil products), until said crude oil products have completed their movement to final destination."

Check Tank Cars

Section B of this rule has been materially altered to enable the commission to check accurately the movement of every barrel of oil handled in tank cars.

"Every person transporting crude oil and/or crude oil products by railway tank cars shall file daily with the commission's agent in charge of said field at its office in Kilgore, Texas, true copies of all waybills covering the shipment of crude oil and/or crude oil products, such waybills to include all shipments during the next preceding 24 hour period from midnight to midnight, originating from points in said field and/or originating from loading racks serving said field.

"Said copies of such waybills shall be accompanied by an affidavit made by such railway carrier, duly authorized agent, stating that said waybills are true and correct copies of all waybills covering all such shipments and authorized by the written permits of said commission . . ."

"Two weeks ago, when our first processed oil tender order was effective, 'hot' oil movements had been reduced to less than 5000 barrels per day," declared Commissioner Ernest O. Thompson. "With this new order in effect, it will fall below this figure. We have them on the defensive," he pointed out, "and now it is our turn."

More Suits

Refineries continued to bring suit during the past week, and by the time the new order was issued, 28 of them had joined in the original attack.

A hearing had been set for Tuesday, August 28, but was delayed until the following Tuesday because of illness of Judge J. D. Moore who presides over the 98th District Court in which the suits were filed.

It was in this same court that the state obtained its injunctions. Attorneys for the state were Assistant Attorney General A. R. Stout, Railroad Commissioner Attorney O'Brien Stevens, and Special Counsel Maurice Cheek.

One legal obstacle, however, remains to be surmounted. That is the question of jurisdiction of the railroad commission over movements of oil after it has ceased to be crude.

Injunction Hearings May Be Held Tuesday

Austin.—Hearings may be held Tuesday, September 4, on the temporary injunctions which the state has obtained against several East Texas refineries, Assistant Attorney General A. R. Stout said Friday. He pointed out that a hearing had been previously set for that date on the temporary restraining orders which the refiners had obtained against the order issued August 16. Judge Moore has indicated that he may be interested in reviewing all the injunctions at this same hearing. However, if the state finds that it is not ready, it may ask for more time, as 10 days notice is required. The question involves the right of the Texas Railroad Commission to control the movement of processed oil from crude which has not been produced in compliance with railroad commission orders.

Increased Imports Bring Protests

Ardmore, Okla.—Home for a few days, Colonel Harold B. Fell, executive vice president of the Independent Petroleum Association of America, declared that officials of the association were making a protest to National Oil Administrator Harold L. Ickes and the other authorities at Washington at the "break-down in import restrictions."

"Excess imports of foreign produced oil is again menacing the domestic industry," said Fell, who exhibited a massive chart he has had prepared to prove that excess imports today was proving as serious a problem in stabilizing the oil supply as hot oil produced in East Texas.

He said that in June, 1934, total imports averaged 82,610 barrels a day in excess of the daily average of the total imports of crude petroleum, and its products during the last six months of 1932, and which were presumed to form the basis for the limitation of foreign imports.

Fell declared some of the major companies apparently were trying to undo the unwritten agreement made in March, 1933, by which the imports of crude petroleum and its products were to be held to the average for the last half of 1932. The executive order of Secretary Ickes on September 2, 1933, limiting imports to that level, Fell said it was understood that the daily imports would be kept at 108,000 barrels a day.

The I.P.A.A. official and who is also a member of the Planning and Coordination Committee, said that an exhaustive survey shows a constant move to flood the country with foreign oils as the domestic supply declines.

Two Code Injunctions Before Oklahoma Court

Tulsa.—Two actions are pending before Federal Judge Edward S. Vaught of the Western District of Oklahoma, that may have a bearing on two phases of the enforcement of the oil code in the Mid-Continent fields.

Champlin Refining Company of Enid has sought an injunction to prevent action by its employees or the federal district attorney toward collecting retroactive pay as set out in the May order of Oil Administrator Harold L. Ickes, Assistant District Attorney Wade H. Loufbourrow has moved to dismiss the application, asserting that the petition is groundless, since no action has been taken or had been contemplated.

The other is the petition of the Petroleum Administrative Board to enjoin Eason Oil Company, also of Enid, from drilling more test wells at the edge of the Crescent field of Logan County, rather than in the center of 40 acre tracts as set forth in the program of orderly development approved by Secretary Ickes for the pool.

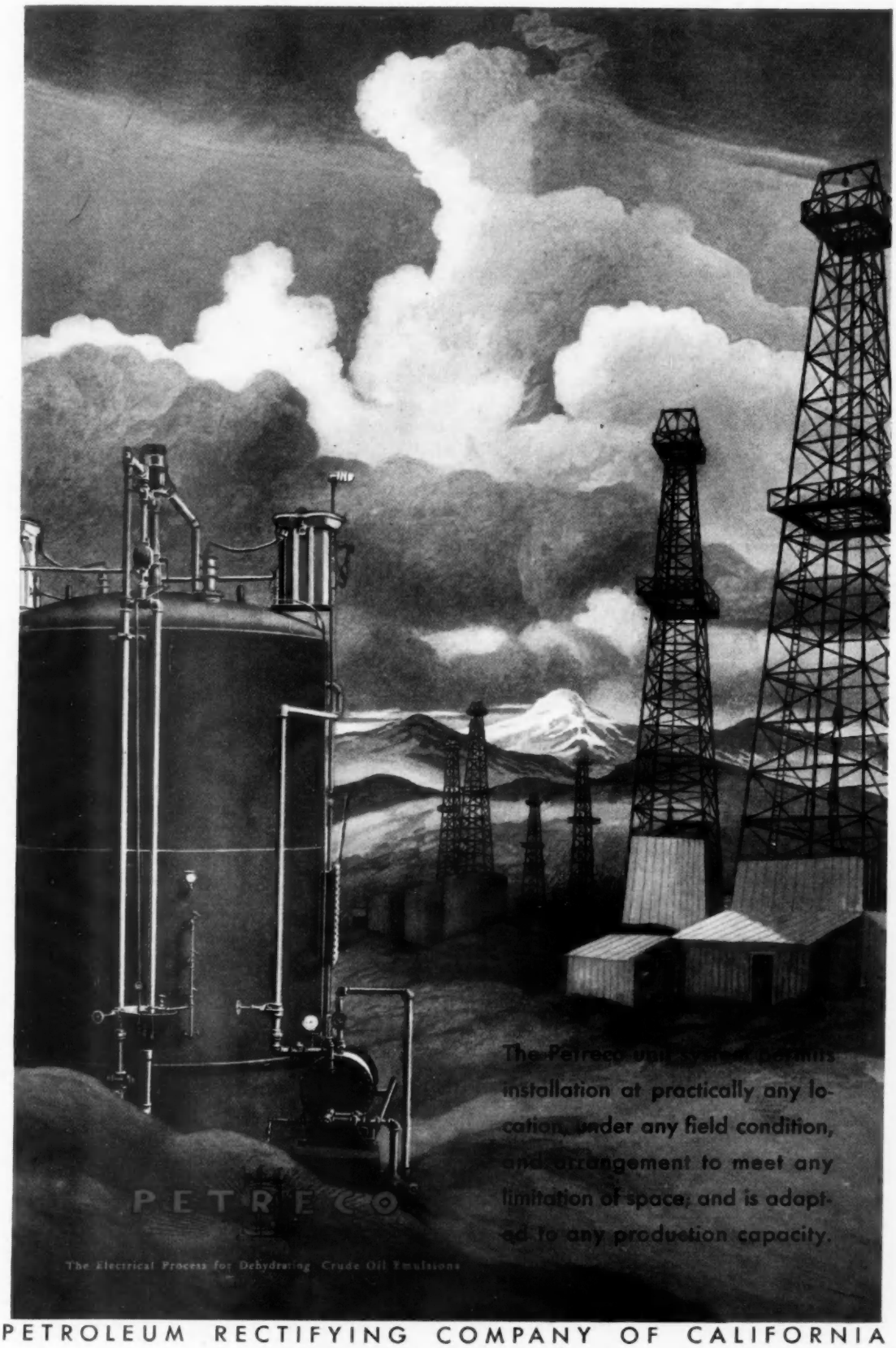
Eason Oil Company has started three 10-acre tests and forced The Texas Company to start another 10-acre test. Judge Vaught has the case under advisement.

Persian Development Will be Orderly

Exploitation of reserves in Masjid-i-Sulaiman and Haft Kel Fields in Persia will continue in an orderly manner, according to statement made by Sir John Cadman when he recently presided over the annual general meeting of the Anglo-Persian Oil Company, Limited.

A fine technique of operation has been evolved in the production of oil. Scientific investigation into reservoir conditions is far from being academic. The most important result of this investigation has accrued in conjunction with unit operation of the fields that makes possible the maintenance of gas pressure within the reservoir. That pressure is sufficient to force the oil to the surface, thereby saving the company the expenditure of pumping.

Incidentally, the company's production in Persian fields for the year amounted to seven million tons, five million of which were extracted from Masjid-i-Sulaiman and two million from Haft Kel Field.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MEN IN THE INDUSTRY'S NEWS

JAMES A. MOFFETT, administrator of the Federal Housing Administration, has resigned as vice president of the Standard Oil Company of California. Mr. Moffett stated that his new duties will demand his attention indefinitely and for a longer period than he originally anticipated, and for that reason, asked to be relieved from the service of the company.

D. B. McCONNELL, for several years a field inspector for the minerals division of the Louisiana Conservation Commission, with headquarters in Shreveport, has been made chief field inspector for the Shreveport division, according to announcement by Dr. J. A. Shaw, director of the minerals division. Mr. McConnell will be in charge of the field force in the Shreveport division, assisted by C. C. Wasson and Roger Parnell, as inspectors. The main office of the minerals division was recently transferred from Shreveport to New Orleans. Malcolm Lafargue will be office manager of the Shreveport division with Mrs. Alice Schreck secretary.

W. R. EDWARDS was elected August 27 secretary of Union Oil Company of California by the board of directors, succeeding John McPeak who died June 20. Edwards has acted as assistant secretary since 1922.

DE. E. LEGAN, superintendent of production for Tide Water Oil Company, Houston, sought higher altitudes last week by making a tour of the company's properties in West Texas and New Mexico, accompanied by Frank Schneider, who is superintendent of the latter district, with headquarters at Midland, Texas.

DR. DAVID WHITE of Washington, 48 years with the United States Geological Survey, was awarded the Sir Boverton Redwood medal for distinguished service at the summer meeting of the Institute of Petroleum Technologists at London. Due to illness, which prevented Dr. White's attendance at the meeting, the medal was accepted for him by Herschel Johnson of the United States embassy.

A. V. BOURQUE, secretary-treasurer of the Western Petroleum Refiners Association, who spent 62 days in East Texas field, seeking to make the refinery purchase program under the oil code operate, has returned to his desk at Tulsa.

RALPH ANDERSON, foreman at Morris for Simms Oil Company, has been made superintendent for the northern Oklahoma district, succeeding the late Fred L. Riley.

Harry F. Sinclair and George McDonald pictured on the S. S. Leviathan as they returned from Europe recently.

PERL MORRIS, field superintendent for the Rose-Spring Drilling Company of Wichita, Kansas, and H. H. Blair, independent oil operator of Wichita, were participants last week in the Great American handicap of the American Trap Shooters Association at Vandalia, Ohio. Blair won the doubles championship in 1931.

R. F. FIKE, superintendent of automotive department of the Mid-Continent Petroleum Corporation, has returned to Tulsa from an inspection trip to Denver and other Colorado points. He made a study of methods of Rocky Mountain companies in operating their automotive equipment.

DR. W. ARMSTRONG PRICE was the featured speaker at the weekly luncheon of the Houston Geological Society August 30, discussing "The Corpus Christi Structural Basin."

G. C. ROUGHTON, oil operator of Tulsa, is spending some time in Wichita, directing drilling on a wildcat test he and associates are to drill in Section 34-28s-2w, Sedgwick County, Kansas.

CLYDE M. BECKER, deputy proration umpire of Oklahoma, has returned to Oklahoma City after a combination business and fishing trip in central Colorado.

M. A. (WOODY) WILSON is the new general auditor of the Empire Companies at Bartlesville, succeeding the late O. P. Wilson. Wilson started his career with the Doherty units as office boy at Amarillo.

V. CAMBI, resident manager for Societa Petrolifera Italiana in Fornovo-Taro, Parma, Italy, recently made an inspection tour of Roumanian fields with the idea of determining which Roumanian rotary methods might be applied to Italian drilling.

H. P. MANTON, Lobitos, Peru, field executive of Campania Petrolera Lobitos, is spending his vacation in England.

LOUIS TIDD, formerly a scout for Shell Petroleum Corporation, is now credit manager at Oklahoma City for Black, Sivalls & Bryson, Inc.

(Continued on page 33)

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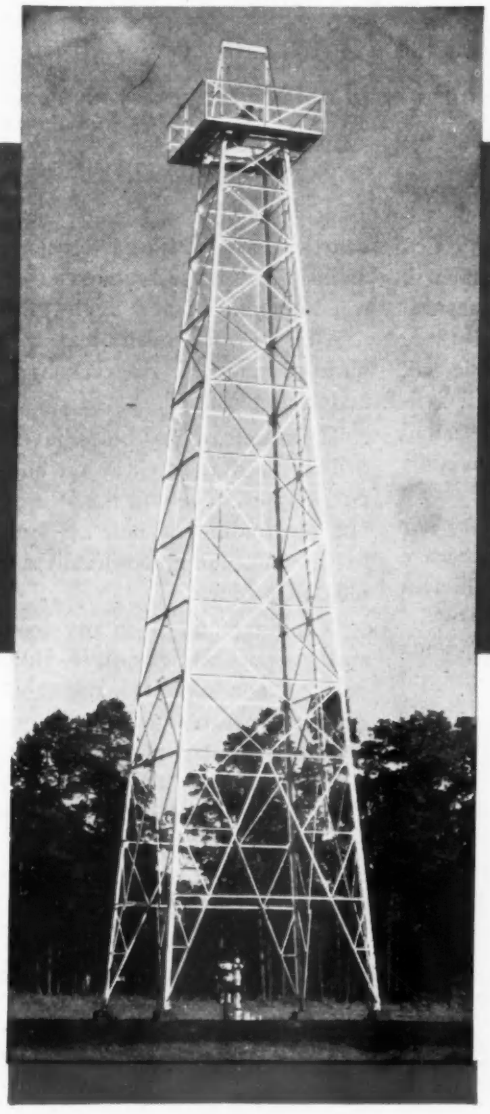

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New Supplies and Reserves *to Meet Consumption Demands* Must Be Found

DORSEY HAGER

Consulting Geologist and Petroleum Engineer, New York

TO meet the oil consumption demand of today, 2,500,000 barrels daily, will keep this great industry working hard, if present indications of supply can be trusted. Oil men have real need to consider new oil supplies for the future. "Find the oil" should be the cry; find all that can be found in oil wells, for in a few years it will be scarce. Yes, you'll say we've heard that before and then came the deluge! Places that had been passed by proved later to be fine productive areas. Seminole, East Texas, all seem to refute the view of scarcity. Yet there is a limit to even new oil and gas fields, and that limit seemingly is being reached.

Numerous writers have discussed the oil and gas possibilities of the nation, numerous maps have been prepared, but another one showing present productive limits is not out of place. Perhaps comparison with earlier maps will prove interesting for nearly all the areas now productive of oil and gas come within the limits set by earlier writers. Each year thousands of test wells are drilled; deeper ones too, but all within the limits of possible oil and gas territory, and only a few new fields are found. The end must come, in fact cannot be far off. New oil fields will be encountered 20 years hence, but they will be fewer. History repeats itself. There has not been an outstanding oil field in Pennsylvania, Ohio, West Virginia, Illinois, Indiana and Kentucky for 15 years. New oil and gas fields will be found in all those states, but the chances of their being of major importance is slight. Michigan, however, has become a potentially important producing area, but it will not be a second Texas nor Oklahoma. However, a number of oil and gas fields should be opened there.

California, Oklahoma, Texas, Kansas, Louisiana, New Mexico and Michigan are the states that will produce the main supplies of new oil for some years to come, but these states are being widely prospected. No major field is in sight in California though new fields, of small size, will be opened there from some year to year. Oklahoma may have several more Oklahoma City or Seminole fields but the chances are lessened each year. The known fields are being drilled intensively. Core drilling in western Oklahoma and Kansas will uncover more oil and gas fields, but the untested limits are steadily being drawn closer, the untested prospective areas grow smaller and smaller.

Oil first was produced commercially in 1859 in Pennsylvania. To January 1, 1934, 15,863,597,000 barrels of oil were produced as shown in Table 1.

California to date has been the largest oil producer of the nation. Oklahoma next and Texas third, all with figures above three billion barrels each, but soon Texas will outrank California. Pennsylvania, Ohio, Louisiana and Kansas have produced above half a billion barrels of oil each. But of this total production of all states, fully two thirds of the total oil production has been produced in the last 15 years, as against an oil history of 75 years. More oil history has been made since 1920 than in all the preceding years. The great expansion following the World War caused the intensive drive for new uses for oil. The great geological and geophysical advances along with the development of deep drilling technique caused the rapid opening of new fields, until today the known proven areas are well outlined and the reserves approximately determined.

Thousands of dry holes have been drilled, each reduce the oil and gas possibilities. The end is not in sight, but the finding of new oil and gas fields is becoming continually a more difficult problem.

Wyoming and Montana have oil and gas possibilities not yet fully developed, nor exploited, but the main known structures in those states have been tested. However, these states will probably produce more oil in the future than they have in the past. As new sources of supply they are negligible, furnishing as they do about 1/50 of the total oil supply of the nation.

Where then can one seek new major oil fields? Oregon and Washington surely are not likely to furnish them, as testing has shown, although some new oil and gas fields may be opened there; Idaho and Nevada can also be ruled out. Utah and Arizona will produce some oil and gas fields, but there is slight chance for major fields; nor is Colorado a state to contemplate finding a field that will flood the market.

The Dakotas, Minnesota, Iowa, Nebraska and Wisconsin have little chance for important oil fields, although the Dakotas, Iowa and Nebraska may produce some Ordovician oil, but the chances are not very hopeful. Missouri can be ruled

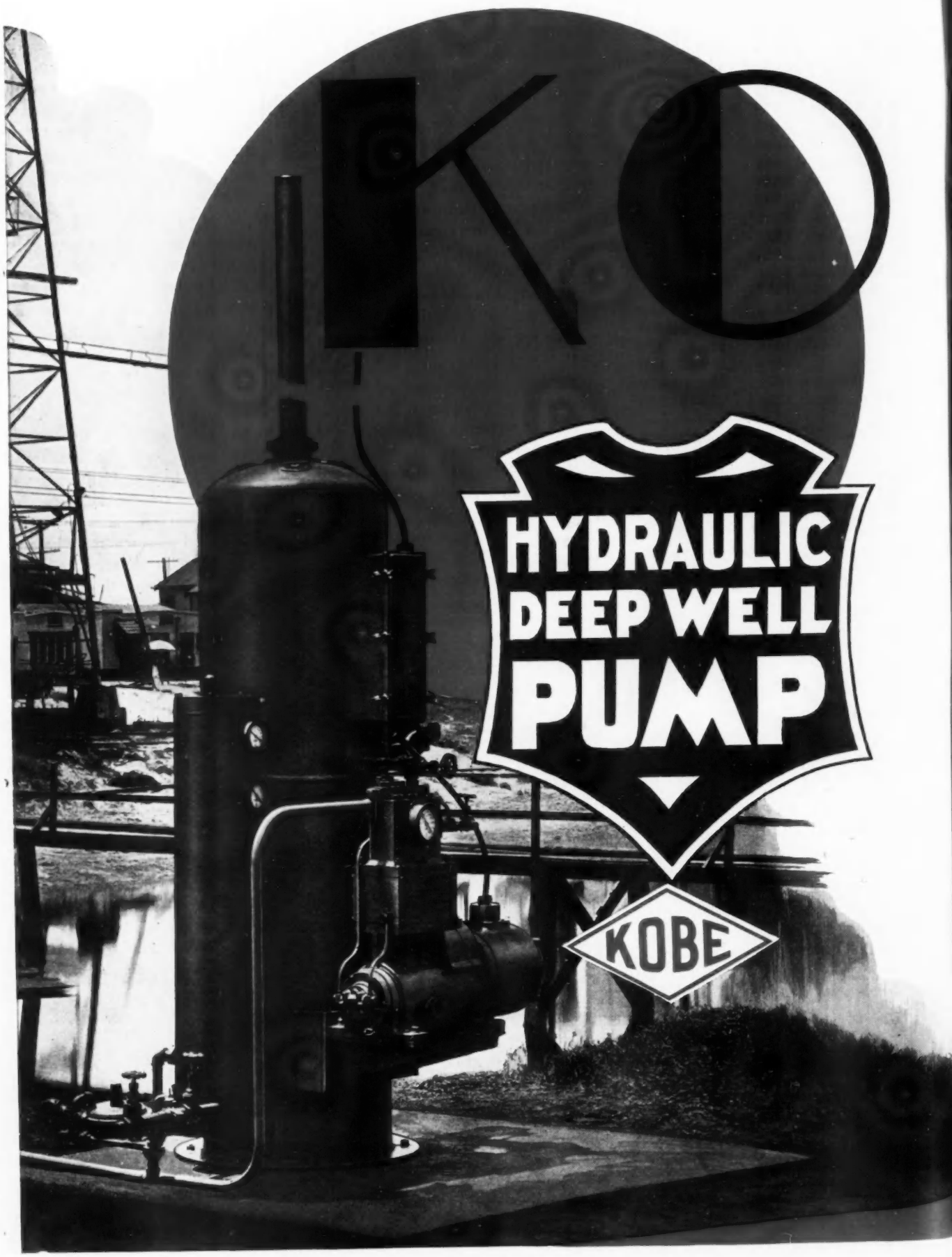
TABLE 1

State	Date of oil discovery	Oil Production in bbls. to January 1, 1934
Arkansas	1921	396,723,000
California	1876	4,037,738,000
Colorado	1887	29,528,000
Illinois	1889	412,246,000
Indiana	1889	120,136,000
Kansas	1889	703,590,000
Kentucky	1883	129,000,000
Louisiana	1902	512,405,000
Michigan	1925	28,120,000
Montana	1916	45,828,000
New Mexico	1924	58,768,000
New York	1882	85,447,000
Ohio	1876	563,071,000
Oklahoma	1897	3,513,518,000
P'nns'lvania	1859	878,375,000
Texas	1896	3,409,153,000
W. Virginia	1876	384,369,000
Wyoming	1894	374,701,000
Total . . .		15,863,597,000

out except for a few very shallow oil and gas fields. Tennessee will give a few small fields. Alabama, Georgia and Florida seem to have but slight chances. Mississippi, Arkansas and Louisiana will produce some new oil fields. All the Eastern seaboard states from Florida to Maine are out of the picture.

There is, of course, a large amount of oil to be recovered from the old Appalachian oil fields and from the Indiana, the Illinois, the Kentucky oil fields by repressuring and by water drive, but this comes from known productive areas. Kentucky alone of these Eastern States has the chances of opening a number of new oil and gas fields, but there is little chance of finding any fields of major importance.

Summing up, the main oil producing states today; namely Texas, California, Oklahoma, Kansas, New Mexico, Louisiana, Wyoming and Michigan, are the main producing states for the future. New oil will be found in Colorado and in Montana and probably some in Arizona, and Kentucky and other states, but the prolific producing states of today are the ones that we must look to for our main supplies for the future, and it is a question of maintaining oil supplies and reserves to satisfy the present rate of consumption rather than to seek new sources of consumption. The very fact of coming shortage of oil from oil wells makes a consumer philosophy imperative for the future. There will be no real scarcity of oil for a time, as the oil from repressuring by gas or air, by water drive, by acidizing, by mining and better production technique will furnish much new oil —probably as much as already has been produced to date—15 billion barrels or more — but the cost of production will be higher. Also, the vast oil shale and lignite deposits of the Northwest, and the sands and oil-saturated shale of California will furnish supplies of oil sufficient for the next 150 to 200 years, but again the cost of oil products must be high enough to justify the expense of obtaining the oil from those sources.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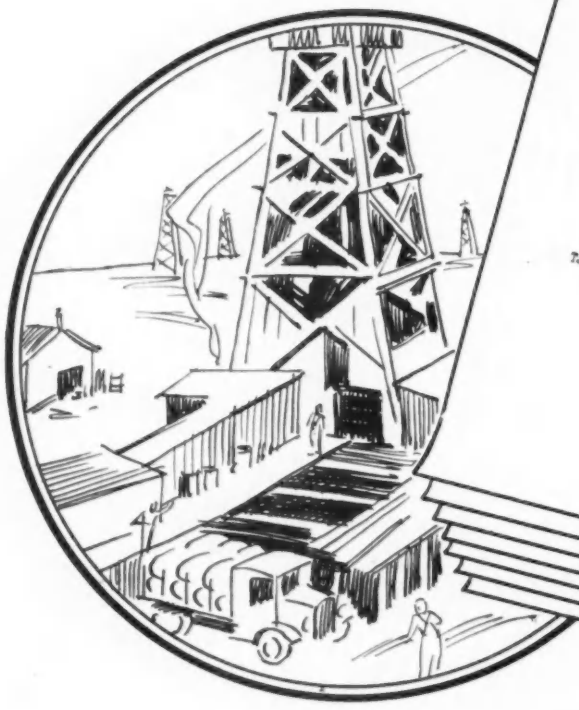

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The Oil Weekly,
P. O. Box 2811,
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February 14, 1934.

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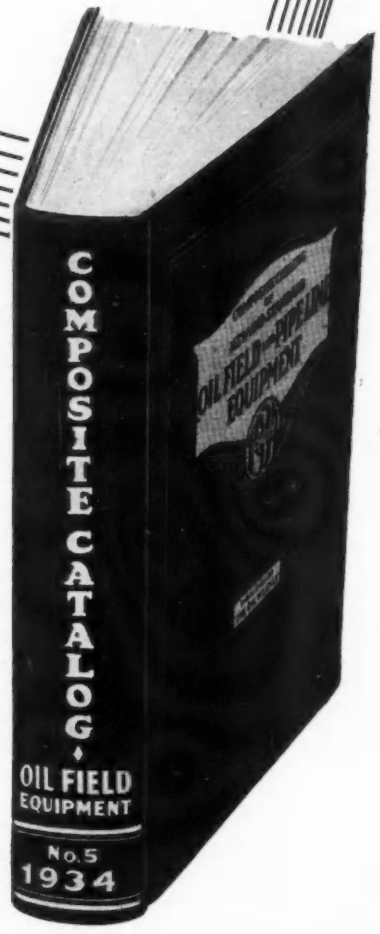

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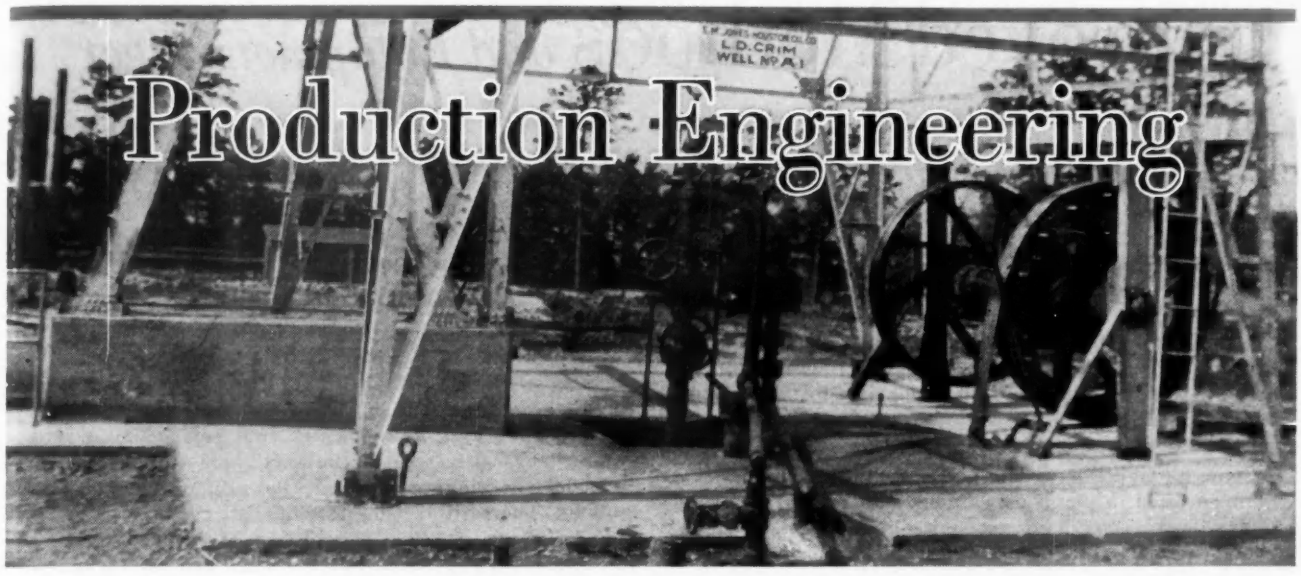


Production Engineering

The Trend in Petroleum Technology

STANLEY HEROLD

SAID George Santayana: "All living souls welcome what they are ready to cope with; all else they ignore or pronounce to be monstrous and wrong, or deny to be possible."

Many geologists and engineers in the Mid-Continent and Eastern fields are well aware of the fact that most oil and gas wells there do not behave in the manner of the kerosene can as previously described on this page. They say there must be a simple and logical explanation of this behavior, for in so far as the wells act differently, they are quite consistent among themselves. If Nature were to play a trick in the way of allowing us insane wells just to baffle us, either she would furnish fewer of them, or she would make a greater variety of them.

Others do not know that the wells are different, in spite of the fact that they work daily with them; in spite of the fact that their pay-checks are forthcoming on the presumption that they do know wells. Still others say the wells can be different if they want to be so. What is it to them? If they are different we can do nothing about it. Persons of these groups are the happiest when they can say with a smile and a wave of the hand: "There is much that we do not know about wells." The "we" is intended to include all of us. That is proper. But what we do not like is their heavenly bliss in such ignorance.

WE are concerned with the first group. It is composed of persons with definite opinions. These are in fact the geologists and engineers who hold the better positions on the staffs of major oil and gas companies; they are the most prominent members of scientific and technical societies. Opinions are not unanimous among them. A section steadily growing in numbers is accepting the principle that wells of the Mid-Continent and Eastern fields are producing from reservoirs of a distinct class. Here there is agreement on the cause of the peculiar behavior of the wells. It is the simple action of bubbles of gas and globules of oil or water dispersed throughout a porous formation in a localized space properly described as the pool.

The other section of the group is losing ground. It is composed of members who are pig-headed in that they refuse to investigate the action of bubbles in the laboratory, and they refuse to look upon definite evidence of such action in the fields. They continually attempt to destroy the constructive work of others; they offer nothing in its place.

To the first group at large Santayana has spoken.

IN the year 1859, when Drake was drilling our first oil well, there was a French physicist, Jules Celestin Jamin, who experimented with a capillary tube filled with alternating bubbles of air and globules of water. To his surprise he found this tube to behave peculiarly—so much so in fact that he gave several papers about it before the French Academy of Sciences.

We petroleum technologists now must place his name with those of Archimedes, Leonardo da Vinci, Stephinus, Galileo, Torricelli, Pascal and Daniel Bernoulli. For us in the oil industry (at least—and why should we consider others at present?) this experiment is a contribution to our laws of fluid mechanics. The tube behaves in the same way as those wells in Oklahoma, Kansas, Illinois, Indiana, Ohio, Kentucky, West Virginia, Pennsylvania, New York and Ontario.

Improved Methods *and Equipment Meet Conditions Encountered* in Deep Pumping

BRAD MILLS
Associate Editor

INCREASED pumping depths in several California fields prove it is practical to lift oil commercially from 7000 or 8000 feet. Gradual recession of the fluid level in wells originally pumped from below 6000 feet has created a number of problems that have been met through changes in methods and equipment. Prejudice against installing pumps below 7000 feet has been largely overcome by successful operation of a number set below 7500 feet.

Some thought has been given to the economic depth limit at which a pump may be set under favorable conditions. There is perhaps a definite limit, but this depends upon several factors. Length of stroke, type of pump, condition of well, and other factors affect both efficiency of operation and volume of oil recovered.

Equipment of a certain type, using a short stroke, failed recently on a pumping test. The same equipment when used with a much longer stroke pumped a satisfactory quantity of fluid from more than 7000 feet. Rod stretch, friction, and side motion of rods had apparently prevented the pump from receiving motion imparted by reliable power at the surface while using a short stroke. The longer stroke apparently was enough to offset the various losses that caused the first test to fail.

As the fluid level recedes in such fields as Santa Fe Springs, new pumping problems develop. Some of the deepest producing wells in the Los Angeles basin field are being pumped successfully. The trend has been away from complicated and unusual equipment, but a few of these extreme designs have functioned satisfactorily. Research and engineering have featured improvements of the past two years, although few radical changes in pump design have been announced. Efficiency has been increased as the result of study of individual well conditions.

At Santa Fe Springs and Long Beach, pumping problems have been attacked by major operators on the theory that 7000- and 8000-foot wells can be pumped profitably with present equipment and methods. Pumping depths have increased during the past five years, due to decline in production from deep flowing wells and a receding fluid level in several deep fields.

Six years ago a large producing company in the Los Angeles basin had three wells pumping from above 1000 feet, 10 wells pumping from 1000-1500 feet, 10 wells pumping from 1500-2000 feet, 19 wells pumping from 2000-2500 feet, 17 wells pumping from 2000-2500 feet, 17 wells pump ing from 2500-3000 feet, 37 wells pumping from 3000-3500 feet, 23 wells pumping from 3500-4000 feet, 42 wells pumping from 4000-4500 feet, 14 wells pumping from 4500-5000 feet, four wells pumping from 5000-5500 feet, and no wells pumping from below 5500 feet.

In the early part of 1928 the Los Angeles basin had no extremely deep pumping wells. Lower formations at Long Beach and Santa Fe Springs had not been developed, and a 5000-foot pumping well was unusual. It was the custom as recent as six years ago to regard a 5500-foot pumping as a sensation.

Equipment and technique developed between 1925 and 1930 were based on the belief that average pumping depths in the Los Angeles basin from year to year would show a nominal increase. A number of engineers believed at that time that 6000 feet to be the maximum depth from which oil could be pumped satisfactorily with ordinary rods and tubing. The rush of deep development changed those ideas rapidly, however, since completion of several small 8000-foot wells served notice that a much longer lift would soon become necessary.

By use of improved pumps and surface equipment, increased pumping depths have been met in several California fields. Most successful pumping installations below 7500 feet employ the same principles used in pumping 5000-foot wells six years ago. This development is considered important and proves the well known physical laws recognized in pumping shallower wells were well founded.

Time has proved that a well can be pumped with rods and tubing from 7500 or 8000 feet under average conditions. A few wells at Santa Fe Springs were completed in the Clark zone at about 8000 feet, and pumps have been set near bottom. The fluid level is very low in these wells, but operations have been profitably conducted in many instances.

The Long Beach field probably presents more pumping problems than any field in the state. The fluid level has not receded as much as in some fields, due to water encroachment, but lifting costs and problems have increased as the result of emulsions, shale and sand. Several wells are being pumped from around 7000 feet under circumstances as adverse as may be found in any field. It has been established definitely that wells may be pumped with rods and tubing from depths formerly thought too great for this type of operation.

A study of wells pumping from around 8000 feet at Santa Fe Springs reveals several interesting facts. The greatest production obtained from this depth has been about 100 barrels per well per day. The practical limit of sucker-rod pump displacement is almost wholly dependent upon depth of the well. Maximum production from 7000 feet has averaged about 165 barrels, but in extreme cases the recovery has been both greater and less.

As much as 400 barrels per day has been pumped from 4000-foot Santa Fe Springs wells, but doubling the depth will normally reduce production by 80 percent.

A study of pump and rod action has been made, but there is some question as to the amount of movement at the extreme bottom of an 8000-foot sucker rod string. Several factors necessarily enter into these calculations. One engineer believes the sucker rod movement near bottom to be greater than movement of the polish rod, his theory being based on the assumption that energy stored up in the rod string pushes the pump a greater distance than is

imparted at the surface. His claim is also strengthened some by the fact that a pump will sometimes raise more oil than it is calculated to raise with an effectiveness of 100 percent.

Efficiency, or effectiveness, of pumping has been used by engineers to calculate rod and pump action near bottom of the hole in deep Long Beach and Santa Fe Springs wells. Effectiveness in some of the shallower wells has been high, but efficiency has been lower in the deeper producers. No fluid was delivered at the surface from a few very deep wells using a short pumping stroke, while use of a longer stroke resulted in a fair effectiveness. This development indicates a shorter sucker rod movement near bottom than at top of the hole, since a marked increase in length of stroke resulted in production of oil.

Stress and strain, rod stretch, "coiling" of rods, side slap of rods, lack of time for adjustment between strokes, and other factors have been studied in connection with pumping deep Santa Fe Springs and Long Beach wells. Efficient operation depends upon sufficient displacement, leakage of tubing and valves, volume of gas reaching pump, plunger slippage, fluid level and other mechanical factors. Excessive gas has prevented pumping a number of deep wells, but such trouble is not the general rule.

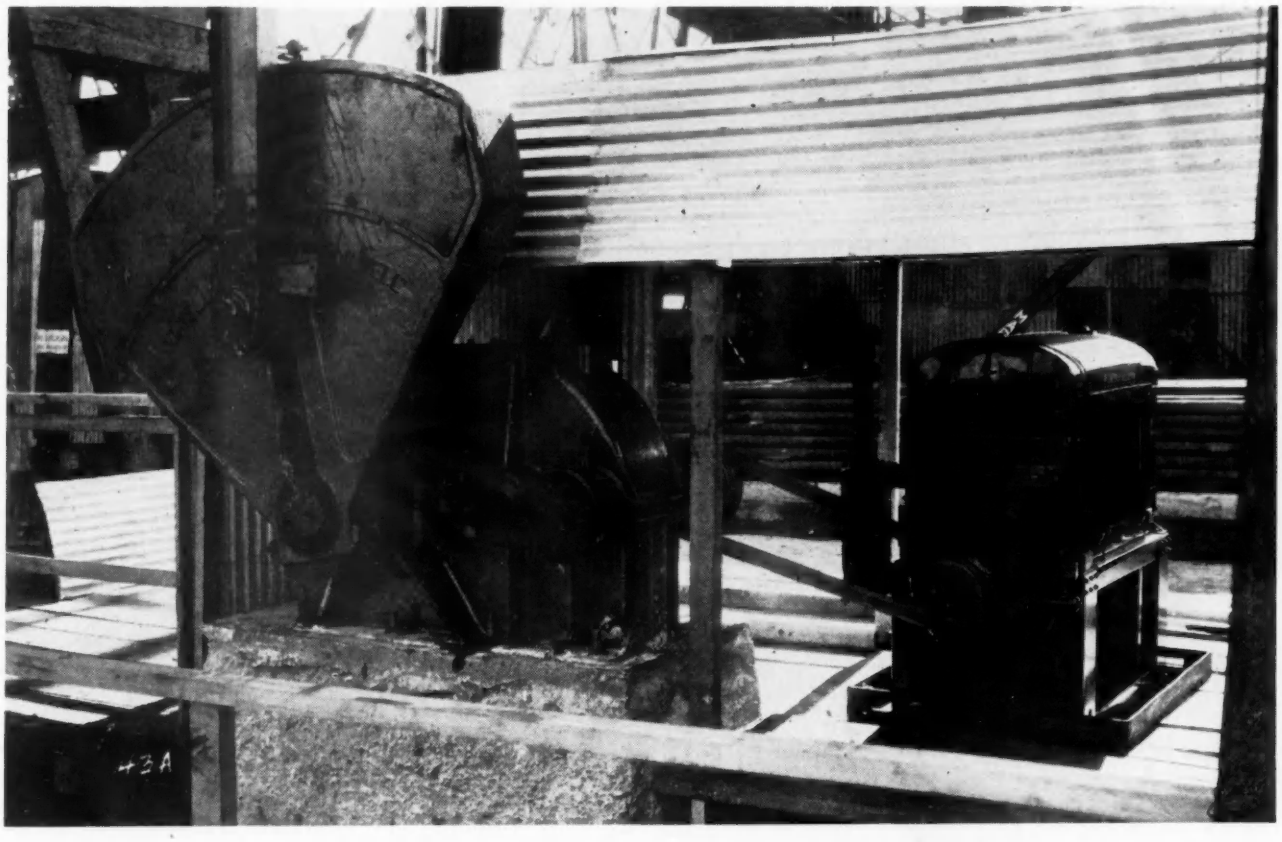
Manufacturers are now using better metals in pumps intended for use below 7000 feet. Harder and tougher liners have been designed to reduce pulling costs caused by sand encroachment. Major California oil producers have been working with manufacturers to improve pump steels. Considerable thought has been given plunger tolerance, a high-grade steel having several advantages over a poorer grade where fluid conditions require either a slight or excessive tolerance.

A typical sucker rod string in a 7500-foot Santa Fe Springs well includes a combination of ⅞-inch and ¾-inch rods, the amount of ⅞-inch rods on top depending upon length of stroke, condition of hole, number of strokes, nature of fluid, fluid level, type of power, and position of well on lease. Deep zones at Santa Fe Springs were drilled rapidly during 1928-1930, and wells are much more crooked than might be expected of such recent development. For this reason rod strings receive excessive wear.

Weight of a 7800-foot, ⅞-inch and ¾-inch sucker rod string is itself a factor, especially where the fluid level is low and buoyancy is absent. Handling of this weight may affect production through power fluctuations and the natural disturbance in the rod string through constant change of motion. An 8000-foot rod string, using 3000 feet of ⅞-inch on top and 5000 feet of ¾-inch on bottom, weighs around 15,000 pounds. Fluid level in a few deep Santa Fe Springs wells is near bottom.

The 2½-inch tubing string is popular in deep pumping wells, although two-inch and three-inch strings have been used to advantage in many wells. The larger size applies mostly to the shallower wells, however. Use of large rod strings necessitates running tubing 2½ inches in diameter, or larger, to obtain sufficient clearance between rods and tubing.

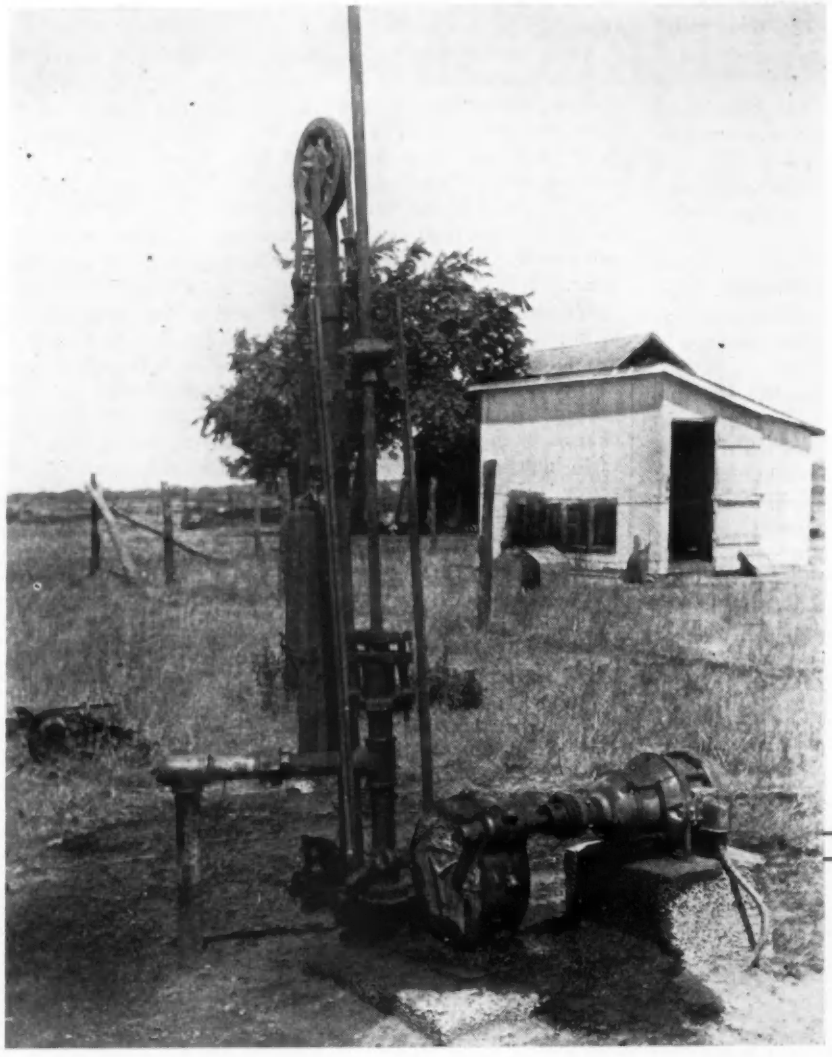
A study of deep pumping wells at Santa Fe Springs and Long Beach indicates that wells of similar depths in other districts can be pumped with equipment offered by various manufacturers.



Type of Multiple-Cylinder Gas Engine in Common Use in California.

Stripper

FLOYD SWINDELL
Staff Representative



A typical well hook-up with fractional horsepower electric gear motor.

TO one starting from the beginning to learn the oil business the property of Workman Oil & Refining Company, two miles west and one and one half miles north of the town of McCune in southwestern Crawford County, Kansas, would be an excellent commencing point. To those engaged in the difficult problem of trying to make properties of small productive capacity profitable under present conditions, the economies perfected on this property should be of interest. Here may be found on a small scale the three principle phases of the oil industry, all conducted on one lease, with a maximum personnel of six men and operating profitably.

Approximately two years ago Workman Oil & Refining Company of Parsons, Kansas, started development of its leases. Accomplishments of the two years include the completion of 30 wells, the design and installation of an electrically-driven pumping system with power requirements developed on the lease, the erection of a 45-barrel topping plant and the development of a market for the refined products. How this was done with wells averaging approximately two barrels per day of 30 gravity oil is a good example of ingenuity and a lesson in economy of operation.

Production is obtained from Bartlesville sand at an average depth of approximately 225 feet. Although initial production is small and some water has to be handled, thickness of the sand ranges up to 65 feet and a long and slowly diminishing supply of crude is indicated. Oil is of the intermediate base type, tending to run toward asphaltic base, but yielding a motor fuel of surprisingly high octane number. All drilling is done with light, portable equipment and no unusual problems are encountered. Only one string of casing is required.

The first and most important problem to be solved was that of lifting costs. Accumulation in the shoestring sands of eastern Kansas usually does not exceed more than a few standard locations in width but some of the pools extend over a distance of many miles. The company's leases were taken with this in mind and it was anticipated that eventually a large number of wells extending over a considerable distance would have to be pumped. In view of these conditions and the small initial production it was evident that lifting costs ultimately would become prohibitive and that the initial investment would be high.

The power plant, which evolved from the study, consists essentially of a motor taken from a medium priced 1932-model automobile and a 2300-volt generator, rewired and cut back to 440 volts. Although the latter places a load on the motor that is now excessive for the load on the plant, it was selected so that capacity of the plant could be increased to meet later enlarged power requirements. This can be done by rewiring the generator. The motor, which drives through a regular automobile transmission, develops 28 horsepower at 1200 revolutions per minute, and operates on fuel produced at the company's refinery. The cooling system includes two automobile radiators hooked together and equipped with a five-gallon reservoir, placed over the top of the upper radiator.

Well *Property Is Made Profitable Through* Operating Economies

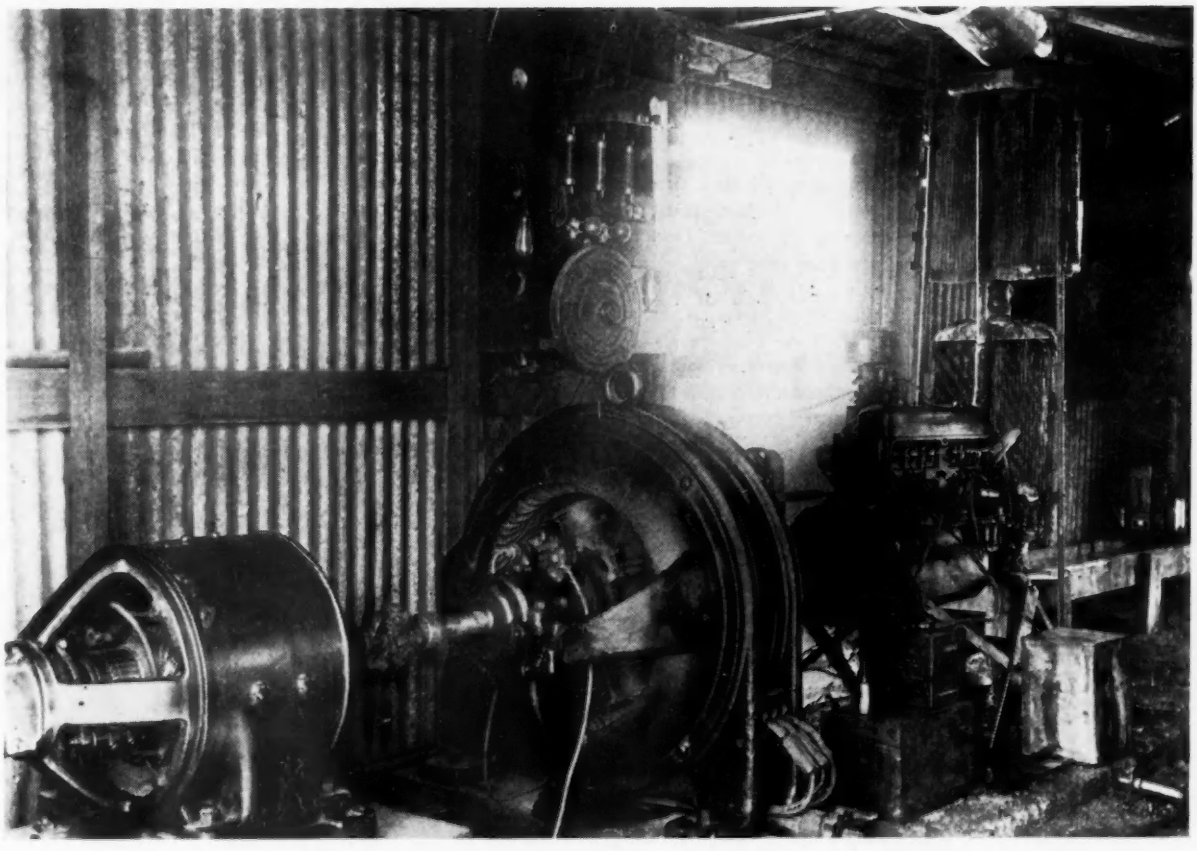
Each well is equipped with a ¾-horsepower electric motor that drives through a reduction gear to the crank. Motor speed is 1200 revolutions per minute for one type of motor and 1750 revolutions per minute for the other type used. Shaft speed originally was designed for water well pumping. Speed of the upstroke is accelerated through gear arrangement in the jack. These installations are quite unusual as may be seen from an accompanying photograph. The first wells were hooked to the plant by overhead cables but more recently operators have been burying the power lines. Three types of underground cable are being tested to determine which best withstands soil conditions. Ultimately all lines will be buried to permit cultivation of the land surrounding the wells.

Upon completion of a well, and before it is in condition to be placed on the plant, a small portable gasoline-driven unit is used. A tank truck hauls oil directly to the gauge tanks until such time as the gathering line is laid to it. Each well is equipped with a switch manually operated at the well. The system could, however, be easily adapted to remote control, which may be done later as production is developed over a wider area.

The topping plant includes a 45-barrel shell still, a steam boiler, a packed type refractionating tower and a condenser. Condensation of the lighter fractions is obtained in two coils immersed in water in a wooden tank. The heavier fractions are taken off through an overhead connection or at the base of the still. Natural gas is available in limited quantities from shale beds lying near the surface and from the chat horizon of the Oswego limestone. As a matter of conservation gas is used as a vaporizing medium only until steam is available in the boiler. Gas oil is used for fuel.

Although no concerted effort has been made to develop a market for all the refined products that could be made, the operators are finding a nice demand for the materials available. This includes principally, U. S. Motor fuel, gas oil, kerosene and road oil, the latter containing all the fractions below the burning oils. During the present season a severe drouth has been the largest handicap, the shortage having become so acute that water is not now available for the condensing unit. This has resulted in the loss of a considerable amount of the lighter ends.

The pumping system and topping plant remain in the experimental stage and a number of changes likely will be made. Careful records are kept to be used as a basis for any changes.



Generating plant consisting of a 1932 model automobile motor, a 2300-volt generator rewired to 440 volts, and an exciter.

Locating Water Sources *in Oil Wells* By Electrical Methods

BRAD MILLS
Associate Editor

DETERMINATION of water sources in oil wells has developed into an exact science in California, and present methods being applicable to most producing fields. While not a new practice, several novel scientific facts have been established as the result of locating the source of water in several hundred producing wells.

The most recent development was successful use of a method for determination of water sources in high-pressure, large volume flowing wells that heretofore were not readily tested by the original electrical methods.

Many California fields show an infiltrating water condition that has been the source of much trouble. This encroachment perhaps has resulted in a greater loss of oil than all other agencies combined. Operators in typical California fields have found that water, when permitted to enter an oil zone, displaces the oil and isolates or traps a large percentage that should be recovered from the sand.

Strata below the last casing shoe consist of alternating productive and non-productive layers, and it is not unusual for some of the latter to contain water. Wells are often completed with the hope that no water strata were included, but elimination of water streaks at a later date may be a necessity.

Engineers, cooperating with leading producing companies, have developed two electrical methods for determining the source of water entering producing wells. The first mthod was used successfully in 1924. It showed promise from the beginning, but several operators were slow to accept it as the solution to their problem.

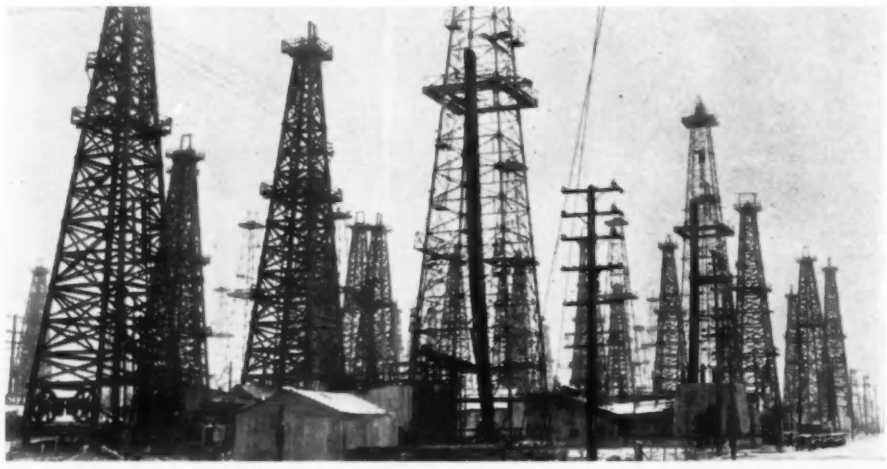
The first electrical method used commercially in California employs the principle of adaptation of electric resistance measurements to locating water entering oil wells. This has been practical and possible in California because most oil field waters contain certain salts in solution. It is an established fact that fresh water is a poor conductor of electricity, while water rich in certain inorganic salts is a good conductor. The latter solutions, or electrolytes, conduct electric current more readily as the concentration, or amount of salt dissolved in a unit volume, increases. Concentration of a solution may be quickly measured by determining the resistance, the resistance decreasing as the concentration increases. Several factors must be considered, however, when attempting to determine the exact source of the water. Exact resistance of an electrolyte may be determined in the laboratory.

The principle of operation is not complicated, but determinations must be exact. Fluid enters the nose of the instrument, and resistance offered by fluid to the electrical current passing between the two electrodes is measured. Value of this resistance indicates character of fluid at that depth.

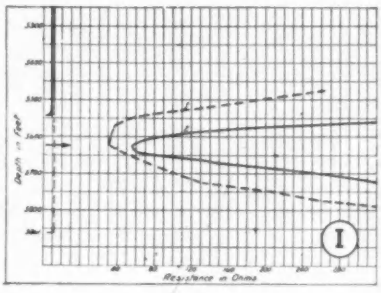
The method of operation is simple. In determining the source, or point of entry, of water, all fluid in the hole is displaced with fresh water, or water having a low salt content and high resistance. Part of the fresh water is removed by bailing to reduce the hydrostatic head and to allow formation fluids to enter the hole. The instrument is then run to determine the resistance of fluid in the well at various depths.

Conditioning is a strict requirement, the hole being filled with a uniform column of pure or slightly salt water for a specific purpose. This leaves the well in a position to respond quickly to entry of formation fluids at any level. A decided decrease in the fluid resistance takes place opposite the entry point of the salt water. Oil entering the hole at any level is indicated by a sharp increase in resistance. The instrument "feeling" its way through the fluid column responds to any change caused by entry of formation fluids, change in the fluid column being reflected by a change in the current passing between the electrodes.

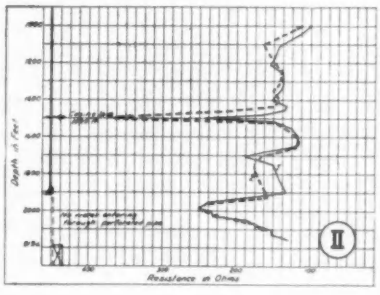
The apparatus, which was first used in 1924, consists principally of a "one to one" transformer; Wheatstone bridge, mounted with galvanometer in a box; alternating current galvanometer; electrode carrier with electrodes; rotary converter and transformer, used when alternating current is not avail-



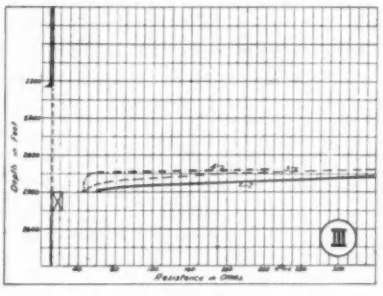
Section of Long Beach. Water has caused much trouble in this field.



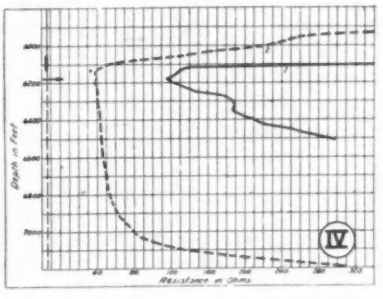
Intermediate water, Run 1 having been made after washing well through tubing, and Run 2 after bailing 170 feet from top of fluid.



A casing leak. Run 1 was made after salting with 175 pounds of ice cream salt, and Run 2 after bailing 30 cubic feet off top of fluid.



Leak around plug, with well conditioned on beam. All three runs were made while well was standing.



High head top water. Run 1 was made after washing well free of salt water, and Run 2 after swabbing 500 feet of fluid.

Four Common Types of Water Sources in Oil Wells.

able; duplex conductor cable; 50-foot duplex conductor cord, and hoisting drum. A number of changes and refinements have been made, but the operating principle remains unchanged.

The apparatus operates only with 110-volt alternating current. The rotary converter and transformer are used when alternating current is not available. The galvanometer is simple and consists of an electromagnet and a resistance coil carrying the indicator. The field magnet operates on 110 volts, but by use of a step-down transformer the moving coil operates on six volts. Resistance measurements are made with a six-volt current.

The bridge has a variable resistance of 0-10,000 ohms. Resistance of the fluid in the hole is measured by varying the resistance in the bridge, no deflection being shown by the galvanometer when the bridge is balanced. Nickel strips one half-inch wide and 1½ inches long are used for electrodes. They are film-coated with colloidal material that has the property of resisting oil while permitting easy passage of the electrolytes to the surface of the electrodes. Importance of keeping the electrodes free from oil is obvious, since accurate resistance measurements can be made only by elimination of actual oil contact.

A duplex cord conducts the current from the bridge to two carbon brushes forming a sliding contact with the brass conductor rings on the flanges of the hoisting drum. The dead ends of a duplex cable connect to the collector rings, conductors in the cable being smaller insulated steel cables. The electrodes are connected to the other ends of the conductor cables.

The hoisting drum is usually mounted on a truck, the engine of the truck furnishing power for operating the drum when pulling the cable and electrodes from the well.

The fluid level in the well being tested is usually known. The usual procedure is to wash the hole through tubing or drill pipe with fresh water; completely displacing fluid previously in the well. The washing period ranges from a few hours to a much longer time. Water in the hole is kept above the fluid level while pulling the tubing by running in fresh water. The electrodes are run into the well and resistance of the full fluid column measured. Resistance is fairly uniform if the hole has been washed properly.

After withdrawing the electrodes from the well, the fluid level is lowered by bailing, the amount bailed out depending upon the fluid level and indicated conditions. An effort is made to bail out barely enough to cause formation fluids to enter the hole. The electrodes are run again, and by comparison of resistance at various levels in the fluid column, changes are noted. Increased resistance opposite the oil formations and decreased resistance opposite water strata are indicated. Fluid from water strata nearly always appears in the fluid column before oil enters.

The electrodes are run several times, the fluid being lowered by bailing ahead of each run. Where water entering the hole has a very low head, it is often necessary to continue bailing for a time after it is impossible to lower the fluid level. Deflection of the galvanometer is observed and the bridge kept near balance while electrodes are being lowered.

When a decided change in resistance is indicated, the electrodes are stopped and the resistance recorded. Water entering the hole through a parted casing string is indicated by a sharp decrease in resistance at a level above the shoe of the casing. Removal of the oil string is necessary when a leak in the water string is to be located. Measurements of resistance are taken and recorded at intervals of from 25 to 50 feet below the shoe of the water string.

Readings are made with the bridge balanced and electrodes at rest. After pulling the electrodes from the hole, resistance of the cable is measured and subtracted from each reading previously recorded. Final readings are plotted on coordinate paper. The graph provides an easy method of interpreting and comparing resulting data.

Resistance of ocean water is 40 ohms at 82° F., and for comparative purposes this resistance is plotted as a vertical line. Resistance of ordinary fresh water varies from 500 to 2000 ohms, and even higher.

It is possible to determine point of entry of non-saline fluids by conditioning the hole with an electrolyte. An increased resistance may mean entry of either oil or fresh water, but it is possible to differentiate between the two.

More recently another electrical apparatus for locating

A QUICK-SETTING CEMENT MAY BE too quick IN A WELL!

High temperatures, high pressures and the presence of waters containing a high content of calcium chloride, are three reasons that make the use of a quick-setting cement dangerous in a well. Any one, or a combination of these, may cause such a cement to flash set and result in disintegration.

Present practice indicates that high quality, standard portland cement is safer and has ample quick *hardening* properties to give the most consistently satisfactory results in oil well cementing.

Recent experience in the J. T. McElroy 103, which was successfully cemented at 10,301 feet shows that high temperatures are distinctly a factor to be considered. A series of readings in this well showed temperatures which averaged 149 degrees Fahrenheit and 8 tons of ice were consumed in lowering the temperature of the water used with the cement, to guard against premature hardening while the cement was being pumped behind the casing.

LONGHORN CEMENT sets normally and obtains a high early strength in ample time to meet the conditions encountered in cementing any well, and, at the same time, it avoids the dangers of flash setting caused by any of the reasons outlined above. In any case no time will be lost since the Texas Railroad Commission has ruled that the plug cannot be drilled in any well for 72 hours regardless of the type of cement used.

Proved!

FOR OIL WELL CEMENTING

Of the 151 wells completed in the Greta field from Oct. 1, 1933, to June 1, 1934, 50 were cemented with LONGHORN CEMENT . . . every one satisfactorily.

Let us show you how you can safeguard your cementing operation and save money, too, with LONGHORN CEMENT

REPUBLIC
PORTLAND CEMENT COMPANY
Smith Young Tower
SAN ANTONIO
TEXAS

P2

source of water in oil wells was perfected. The mechanics of the newer method is somewhat similar to that employed by the older method, but the principle is different. The newer survey also requires a conditioning of the hole, use of electrodes, special fluid or water, to meet conditions, a millivoltmeter and variable resistance coil.

The resistance is set to cause the clear solution to register 200 points. Salt water resistance follows with 60 to 80 points, fresh water 20 to 40 points, and oil showing zero. Entry of gas causes the needle of the meter to fluctuate rapidly as the bubbles pass the electrodes, but the reading is not hampered. Top and bottom of the water entry point or points may be determined with precision.

In locating water in wells with high pressure, it has been found practical to add a quantity of bentonitic matter to the chemical solution to retard diffusion of water with the chemical solution.

A recent important development in California was use of a method for determination of water sources in high-pressure, large-volume flowing oil wells. With this method the study is conducted while the well is actively flowing. The determination is that of the rate at which droplets of water pass through the instrument at any level. On passing the point of entry of water, going downward, the frequency will decrease. On passing the lowest water source, the frequency will drop to a minimum. The lower limit of water entry is determined with considerable accuracy, while the definiteness of finding of upper limit of water entry appears to be satisfactory. Repetition of measurements at given levels show a close duplication of values.

A recent test was made in a high-pressure flowing well. Volume of gas was 32,000,000 cubic feet; oil production 900 barrels; water production 400 barrels; casing pressure 800 pounds; tubing pressure closed 1200 pounds, and flowing 550 pounds. The well was flowing through both tubing and casing.

Some preparation was made for the test. Tubing was hanging 250 feet above top of perforations and the mud pumps were connected to one flow line from the tubing. Lubrication joint and cable packing-off device were mounted on top of the Christmas tree. A volume of 16 gravity oil sufficient to reduce tubing pressure to a prescribed value was pumped into the tubing. The instrument was introduced into the tubing, and flow through casing continued at an unchanged rate.

The special detector is an instrument entirely different from that used by the same company for several years for determination of water sources in other types of wells. It functions by indicating the frequency of impinging droplets of water in a flowing column of oil. The lower limit of diameter of droplets which register is controlled, the instrument being run on an insulated cable which may be packed off against moderate pressures.

Some of the requirements are that the well must be flowing actively, tubing should not extend into perforations, and tubing should have a clear passage for instruments 1¾ inches in diameter. The water source apparently may be determined without disturbing producing conditions, and oil and gas do not interfere with readings.

A Kettleman Hills well recently was studied in an effort to locate the water source. The study was made while the well was producing 300 barrels of oil, 440 barrels of water, and 49,000,000 cubic feet of gas. Black oil was pumped into the tubing in volume sufficient to reduce the tubing pressure to atmospheric. Tubing pressure remained low for 30 minutes, and study was begun. The instrument, weighing 45 pounds, was introduced into the lubricator joint and packed off. Master gate was opened, instrument lowered through tubing and observations made successfully.

MARKETS ~ STATISTICS

Refined market rallies when East Texas hot oil situation again appears curtailed through court action.

New East Texas Order Brings Optimism Into the Markets

THE outstanding development last week with respect to oil markets was the granting of a Texas court injunction, restraining refiners and railroads from moving hot oil products out of the East Texas field. The injunction had a decidedly buoyant influence on the markets, with members of the railroad commission predicting that it would begin to "dry up the East Texas hot oil flood."

The more optimistic feeling was very apparent as the week ended, although tank car prices were reported holding at prevailing quotations. While everyone hopes that the move will accomplish something, most executives are waiting to see. However, all are taking steps to tighten up if the movement from East Texas is materially slackened.

Gasoline has been marking time in Group 3, and little activity was observed. The natural gasoline market seemed stronger than the straight-run situation, and burning oils continued steady.

Many Oklahoma, Kansas and some North Texas refiners went to Kansas City early in the week for a conference with independent refiners, who met to adopt resolutions urging that crude prices be cut so the small refiners could obtain crude more easily. No unanimity of opinion developed, and the meeting was adjourned, to be reconvened at some undetermined date. Otherwise the crude market was unchanged, and it was reported that the reduction in allowables for September would tighten up several soft spots in the crude market that appeared during August.

East Texas Conditions

Prior to obtaining the state court injunctions late last week, to make effective orders requiring approved tenders for movement of refined products, the Texas Railroad Commission had issued similar orders, only to be ordered by court to refrain from enforcing them against numerous complaining East Texas refiners. Consequently, after a brief period of strict enforcement under the orders, hot oil volume resumed large proportions.

The new orders supersede the old, and the injunction obtained by the commission and the Texas attorney general supersedes the restraining orders held by the refiners.

Thus East Texas oil control has been placed, at least temporarily, in a favorable situation, although observers naturally look with doubt upon the developments; since in all the four years of the big field's history the refractory refiners have always "found a way out." Just what move the enjoined refiners will make next is not known yet, but there is of course the likelihood that they will appeal to the federal courts, having been enjoined in a state court.

Prior to promulgation of the new order and granting of the injunction against the refiners and railroads, hot oil production in East Texas was estimated to be running around 85,000 barrels daily, which was slightly higher than in the previous week.

The major company purchases of surplus East Texas gasoline continued last week, and as in past weeks, two levels of prices were consequently prevailing: around 3¾ cents a gallon for third grade bought under the plan, and 3¼ to 3⅜ cents for outside purchases. Those prices represented quotations in effect prior to the week-end firming of the market incident to the court injunctions, and were about the same as throughout the latter half of August.

In North Texas, likewise, last week's gasoline prices remained unchanged, with third grade (62 octane and below) averaging 3⅝ cents a gallon, and middle grade (63-70 octane) averaging 4¼ cents.

Group Three Prices

Ruling prices to wholesale jobbers with bulk storage, or to the consuming trade in tank car lots, 8000 to 10,000 gallons, f.o.b. Group 3 (Oklahoma) refinery, exclusive of all federal, state and other taxes, and handling charges, were approximately as follows:

Refinery gasolines: Third grade U. S. motor, 62 and below octane, 3½ to 3⅞ cents; regular grade, 63 to 70 octane, 4⅛ to 4½ cents; premium grade, 71 octane and above, 4⅝ to 4¾ cents; 60-62, 400 end point, 3¾ to 4 cents; 64-66, 375 end point, 4 to 4¼ cents; 68-70, 350-360 end point, 4¼ to 4½ cents.

Natural gasolines: The 26-70 grade, 3 to 3¼ cents.

Burning oils: The 42-44, water white kerosene, 3 to 3⅛ cents; 41-43, water white kerosene, 2¾ to 3 cents; 38-40, prime white distillate, 2⅝ to 2⅞ cents; 38-40, straw distillate, 2½ to 2¾ cents; 32-36, straw, zero, gas oil, 2½ to 2¾ cents; 32 to 36, dark, zero gas oil, 2¼ to 2½ cents, and 32-36, dark, industrial gas oil, 2⅛ to 2⅜ cents.

THE OIL WEEKLY

Estimated Average Daily Production of Crude Oil

District or State	Bbls. Daily for Week Ending Sept. 1	Aug. 25
TEXAS—		
Texas Panhandle	59,200	60,400
North Texas	60,100	59,200
West Central Texas	27,100	27,200
West Texas	154,200	153,000
East Central Texas	52,500	53,100
East Texas Field	415,500	414,000
South Texas	58,300	58,700
Texas Gulf Coast	177,000	176,600
Total Texas	1,003,900	1,002,200
OKLAHOMA—		
Oklahoma City	137,500	133,350
Seminole Area	110,185	123,850
Tatums	5,380	6,625
Lucien	8,350	11,115
Others	199,135	202,210
Total Oklahoma	460,550	477,150
KANSAS—		
Ritz-Canton	12,150	13,900
Voshell	6,665	6,450
Nikkel Hollow	16,020	15,650
Sedgwick	7,675	7,900
Others	85,490	43,900
Total Kansas	128,000	135,000
LOUISIANA—		
North Louisiana	24,450	24,500
Louisiana Gulf Coast	71,300	70,100
Total Louisiana	95,750	94,600
ARKANSAS	31,300	31,250
CALIFORNIA—		
Long Beach	54,000	60,000
Santa Fe Springs	36,500	41,000
Huntington Beach	38,500	45,500
Dominguez	19,000	19,000
Inglewood	7,500	9,000
Ventura Avenue	27,500	27,000
Seal Beach	5,000	6,500
Midway-Sunset	48,000	55,000
Elwood	12,500	13,500
Kettleman Hills	67,000	67,000
Playa del Rey	7,500	9,000
Others	146,000	144,500
Total California	460,000	497,000
MOUNTAIN STATES—		
Wyoming	38,100	38,000
Montana	9,300	9,250
Colorado	3,600	3,450
Total Rocky Mountain States	51,000	50,700
NEW MEXICO	47,500	47,250
EASTERN STATES	102,000	102,000
MICHIGAN	28,100	28,000
Total United States	2,408,100	2,465,150

Sharp Drop in Production Among Favorable Factors

CRUDE oil production figures lent their influence last week to a predominantly favorable market situation, national output having been 41,200 barrels per day under the federal government allocations in averaging 2,408,100 barrels daily. It was the second consecutive week of fairly close adherence to allowables, the production in the previous week having been about 16,000 barrels above the daily allowable.

The above figures do not include any allowance for hot oil, and if such production were included there would be indicated an excess above the allowable for last week, as well as the previous week, despite the 41,200-barrels deficiency. For estimates last week pointed to illegal production of around 85,000 barrels daily in the East Texas field, within which the greater portion of the nation's hot oil is now confined. That was a slight increase over the estimates for the previous week.

In that connection, however, it appeared late last week that a sharp drop in East Texas hot oil was in store, in consequence of the granting of injunction in a state court against refiners and railroads, restraining them from violations of a new railroad commission order, requiring approved tenders on shipments of all petroleum products.

For the 41,200-barrel under-production of the week ending September 1, indicated above, California and Oklahoma were largely responsible. Kansas was also under its allowable and Texas was almost within its allocation, considering recorded production. Thus most of the leading oil producing states were below or virtually within their allowables, an exception being Louisiana, which continued about 8000 barrels above its allocation.

California's output of 460,000 barrels daily was 30,200 barrels under the state allowable. In the previous week the state had been only 7000 barrels above its allocation.

Oklahoma production, averaging 460,550 barrels daily in the week of September 1, was approximately 20,000 barrels under the amount permitted in the federal government schedule, after having been 3000 barrels per day under the allowable the previous week. However, production had considerably exceeded the allowable earlier in the month.

Kansas averaged only 128,000 barrels daily in the week of September 1, compared with 135,000 barrels daily the week before, and an allowable of 131,200 barrels.

Louisiana's allowable for August was 87,200 barrels daily, but last week production continued around 95,000 barrels per day.

The Texas recorded production was 1,003,900 barrels daily last week, which was 1700 barrels above the previous week's output and 2600 barrels per day more than the federal agency allowable.

East Texas Market Stabilization Plan Not to Be Continued

Tyler.—Major company support of the East Texas gasoline market during the forepart of September will be confined largely to cleaning up delayed deliveries by plants on August committments as the local market stabilization will not be continued. A substitute plan now in the formative stage for majors to buy surplus gasoline from all plants east of the Rocky Mountains through a stabilization committee is not expected to begin functioning in East Texas for several weeks.

Results obtained by the majors in supporting the East Texas gasoline market during the past two months have been pronounced beneficial although tank car prices on gasoline did not advance to the level anticipated. A breakdown of the crude and refined oil market price structure is believed to have been averted as a result of relief given the East Texas plants. The latter were paid a premium above spot sales on all deliveries made to the major group and apparently some plants continued to operate on illegally produced crude in defiance of their part of the transaction. The majors profited mostly thorugh the prevention of a collapse of the wholesale and retail gasoline market during the heavy consumption period, and have expressed a willingness to continue the practice in the interest of avoiding a break in the market at the approaching turn of the season. A spread of one half cent per gallon continued on the third-grade gasoline in East Texas with a top of 3¼ cents applying to deliveries made by plant owners to majors while the spot market was averaging 3¼ cents sales to tank trucks slumped to three cents towards the end of the week.

Excess production in the East Texas field was credited with being near the 75,000-barrel daily level again the past week.

Revised orders issued by the Texas Railroad Commission governing tender requirements on tank car shipments of refined and semi-refined products were put into effect late last week.

A sharp decline in tank car shipments was reported. For the week ending August 26, there were 2180 cars involving about 18,678,000 gallons of miscellaneous products, as compared to 2745 cars containing about 24,000,000 gallons during the previous seven-day period.

Gas Users Gain 360,000 First Half of Year

New York, N. Y.—On June 30, the number of domestic customers served by manufactured and natural gas companies totalled 14,751,600, it was announced by Paul Ryan, chief statistician of the American Gas Association. This was an increase of 360,000 domestic customers during the six month interval.

This gain in customers is reflected in the fact that a total of 425,000 gas ranges were sold in the country during the first half of 1934. This was an increase of 42 percent in range sales over the first six months of 1933. Approximately 70 percent of such sales consisted of relatively high priced ranges incorporating modern automatic features, such as oven-heat control, etc.

Revenues of manufactured and natural gas utilities aggregated $378,697,300 for the first six months of 1934. This was an increase of 3.1 percent over the corresponding period of 1933. Revenues from industrial and commercial users increased more than 15 percent. Revenues from domestic customers however was practically unchanged.

Manufactured gas industry revenues totalled $199,782,400 for the first six months, a gain of 1.7 percent. Revenues from industrial and commercial users, of

Crude Runs to Stills; Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks; and Cracked Gasoline Production, Week Ended August 25, 1934

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(a) Stocks of Unfinished Gasoline	(b) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term., in Trans. & Pipe Lines	Total at Refys., Terms., etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	582	582	100.0	500	85.9	5,022	9,095	14,117	990	195	12,832	496	471	95.0	78
Appalachian	150	140	93.3	109	77.9	707	906	1,613	283	153	1,358	69	69	100.0	25
Ind., Ill., Ky.	446	422	94.6	346	82.0	4,156	2,999	7,155	1,074	52	4,605	325	309	95.1	94
Okla., Kans., Mo.	461	386	83.7	240	62.2	2,841	1,689	4,530	556	640	3,715	256	238	93.0	58
Inland Texas	351	167	47.6	98	58.7	1,054	130	1,184	309	608	1,609	82	66	80.5	26
Texas Gulf	566	552	97.5	526	95.3	3,157	247	3,404	1,473	162	9,405	358	355	99.2	103
Louisiana Gulf	168	162	96.4	120	74.1	763	458	1,221	223	18	2,456	71	71	100.0	19
North La.,—Ark.	92	77	83.7	53	68.8	222	54	276	92	23	618	41	38	92.7	11
Rocky Mountain	96	64	66.7	45	70.3	718	.....	718	122	39	613	46	42	91.3	10
California	848	822	96.9	437	53.2	9,909	1,993	11,902	922	2,310	76,063	209	209	100.0	51
TOTALS WEEK: August 25, 1934	3,760	3,374	89.7	2,474	73.3	28,549	17,571	46,120	6,044	4,200	113,274	1,953	1,868	95.6	475
August 18, 1934	3,760	3,374	89.7	2,422	71.8	28,857	c17,969	46,826	5,921	4,150	113,091	1,953	1,868	95.6	492

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week Aug. 25, 1934, compared with Aug. 1933 Bureau figures.

Estimate B. of M. Basis August 25, 1934	2,635		515
Estimate B. of M. Basis August 18, 1934	2,580		530
U. S. B. of M. August 1933: Daily Average Crude Runs	2,553	U. S. B. of M. August 1933: Daily Average Cracked Prod.	532

(a) Amount of unfinished gasoline contained in naphtha distillates.
(b) Estimated. Includes unblended Natural Gasoline at refineries and plants; also blended Motor Fuel at plants.
(c) On new basis. Stocks as of the week ended Aug. 18th., comparable with subsequent weeks, follow: East Coast, 9,564,000 barrels; Appalachian, 837,000 barrels; Ind., Ill., Ky., 2,983,000 barrels.

manufactured gas gained 6.5 percent. Revenues from domestic uses, such as cooking, water-heating, refrigeration, etc. were 1.4 percent less than for the corresponding period of 1933.

A somewhat similar situation was reflected in the reports of the natural gas companies. Total revenues for the six months amounted to $178,914,900, a gain of 4.6 percent over a year ago. Revenues from industrial and commercial uses of 400, representing an increase of 28.7 percent. Revenues from domestic users of natural gas however registered a loss of 2.3 percent.

Czechoslovak Refineries Face Shortage of Crude

Czechoslovak oil refineries are faced with a shortage of crude. Previously they have been supplied in the spring from Polish, Russian and Rumanian producers with enough crude to last throughout the year.

This year the largest Polish and Russian suppliers are opposed to disposing of their crude to Czechoslovak refineries. The Rumanians are willing to ship gasoline to Czechoslovakia but refuse to deliver large quantities of crude oil.

Sam E. Woods of Prague, Czechoslovakio, places the need of Czechoslovak refineries at 100,000 metric tons annually.

Pettus Sand Producer Found in Grayburg Area

San Antonio, Texas.—Mid-Continent Crude Oil Company's Kimball 1, in the old Grayburg area, near Mineral, Bee County, is showing for some sort of an oil producer in a sand at 3546-52 feet. The well showed one fourble of oil and two fourbles of oily mud and a little gas pressure on a drill stem test, and is now waiting on cement after setting casing. Production estimates are upward of 100 barrels per day. The well is in the Stephen Winship Survey, about one location northeast of Grayburg Oil Company's Kimball 1, which made an oil producer of several hundred barrels several years ago at 3563 feet, but was abandoned after salt water intrusion. Nearly a dozen wells drilled in the district failed to produce, all showing oil, gas and salt water.

The new well may open the way to further development of the field. Production is from the Pettus sand in the lower portion of the Cockfield.

Summary of Field Results During Past Week

State	Completions	Oil wells	Gas wells	Failures	Init. prod.
California	8	7	0	1	19,110
Colorado	3	1	0	2	1,680
Kansas	24	19	0	5	8,285
Louisiana	18	9	2	7	5,610
Michigan	10	4	0	6	590
Mississippi	2	0	1	1	0
Montana	7	4	0	3	895
New Mexico	4	4	0	0	20,730
Oklahoma	40	25	0	15	10,965
Texas	193	136	5	52	387,915
Wyoming	1	1	0	0	20
Total	310	210	8	92	455,900

Comparison of Permits Granted for New Wells

State	Week ending Sept. 1	Total August	Total this year	Total this date last year	1933 year total
Arkansas	2	10	59	36	47
California	11	49	430	713	593
Louisiana	46	111	549	535	755
Kansas	17	89	647	428	682
Michigan	7	45	303	265	420
Oklahoma	30	161	1,381	713	1,315
Texas	299	782	8,139	4,880	7,845
Total	412	1,247	11,508	7,570	11,651

Statistical Condition of Oil Industry Improves in August

DURING August the petroleum industry further improved upon its already excellent statistical position, wells and refineries having been regulated with sufficient effectiveness during the month to bring additional important reductions of the stocks of both crude oil and gasoline. This favorable showing was made even though the industry did fail to stay within the production limitations prescribed by the federal government.

There were during the month no important changes in average price levels at wells, refineries, or service stations; although there was some weakening of refinery prices in the Mid-Continent, due to distriss offerings in East Texas accompanying relatively large hot oil output.

With allowable production lower in August than in July, and with the heavy gasoline consumption period waning, there occurred an appreciable decline in drilling activity during August.

Crude Production

As anticipated, the sharp reduction of the crude production allowable as of August 1 resulted in somewhat less successful enforcement of proration during the month. United States crude output averaged 2,485,216 barrels daily in August, or about 36,000 barrels more per day than the allowable as fixed by the oil administration; whereas production of 2,560,550 barrels daily in July had been within 30,000 barrels of the allowable. For both months the figures given represent American Petroleum Institute estimates, which do not make allowances for oil which may have been surreptitiously produced. Such unreported oil has been confined mainly to the East Texas field, and during both August and July probably averaged around 75,000 barrels daily.

Despite the 36,000-barrel excess of reported production above the federal agency allowable in August, plus the East Texas hot oil which probably boosted the total "excessive" output above 100,000 barrels daily, it is evident that there was not any actual excess of production during the month. For in fulfilling demand, it was necessary to withdraw crude from storage. This draught upon stocks was necessary, moreover, in spite of sub-normal runs at refineries, with considerable of the gasoline consumption being supplied from gasoline stocks rather than from production.

The downward trend of crude stocks has been under way since the beginning of July. At that time the stocks aggregated 357,239,000 barrels, according to the Bureau of Mines. Although no official figures yet are available for later dates, continuation of the downward trend of stocks is indicated. Reports to the federal government by companies holding 100,000 barrels or more showed 343,707,000 barrels held June 30, only 341,313,000 barrels July 28, and 338,762,000 barrels August 18. During the week following the latter date further reduction of crude stocks is indicated by American Petroleum Institute reports on production and runs to stills. For in the week ending August 25 daily crude runs to stills were 55,000 barrels higher than in the previous week, while crude production was 54,000 barrels per day lower.

Gasoline Stocks

While allowable production of crude was lower in August than in July, the

(*Continued on page 32*)

WELLS COMPLETED IN THE UNITED STATES
(Including oil wells, gas wells, and dry holes)

Month	Average Daily
January, 1933	30.0
February	30.6
March	26.6
April	25.5
May	25.6
June	21.1
July	23.1
August	30.7
September	36.5
October	40.9
November	46.9
December	47.7
January, 1934	39.7
February	38.1
March	40.6
April	44.0
May	50.7
June	51.5
July	*53.6
August	51.3

*Highest since July, 1930, when completions averaged 76.6 daily. Average dropped in August, 1930, to 52.4, and remained below that figure until July, 1934.

UNITED STATES PRODUCTION
(Based on American Petroleum Institute estimates, which do not include oil which may have been surreptitiously produced.)

Month	Daily Average (barrels)	Federal Agency Allowable
Aug., 1933	2,748,100	.....
September	2,568,250	2,413,700
October	2,392,900	2,338,500
November	2,267,243	2,338,500
December	2,266,426	2,210,000
Jan., 1934	2,233,505	2,183,000
February	2,239,070	2,183,000
March	2,339,950	2,282,800
April	2,420,950	2,366,200
May	2,575,380	2,366,200
June	2,588,100	2,528,300
July	2,560,550	2,530,300
Aug.,1934	*2,485,216	2,449,300

*Preliminary, subject to revision.

CRUDE OIL STOCKS
(Since Oil Code Inauguration)
Bureau of Mines figures as compiled monthly, comprising all crude in storage in the country.

At end of:	Total Bbls. in storage
August, 1933	360,001,000
September	359,979,000
October	356,885,000
November	355,614,000
December	355,394,000
	*354,305,000
January, 1934	353,642,000
February	351,641,000
March	354,067,000
April	354,350,000
May	355,883,000
June, 1934	357,239,000

*On revised basis, 1,089,000 barrels having been transferred from crude to fuel oil in California.

Trend of stocks situation since end of June, figures being from weekly reports to federal government by companies *holding 100,000 barrels or more.*

June 30	343,707,000
July 28	341,313,000
August 18	338,762,000

MOTOR FUEL STOCKS
(American Petroleum Institute figures, as shown in weekly reports.)

Date	Motor Fuel stocks, bbls.
September 9, 1933	50,913,000
September 30	50,457,000
October 28	52,727,000
November 25	51,934,000
December 30	51,580,000
January 27, 1934	50,229,000
February 24	55,976,000
March 24	57,879,000
After March 24, 1934, figures shown represent stocks of finished gasoline, to be marketed as motor fuels, including natural gasoline which has been blended, and gasoline made from refinery still gases.	
March 24	57,011,000
March 31	57,098,000
April 28	56,011,000
May 26	54,493,000
June 30	51,405,000
July 28	48,597,000
August 25, 1934	*46,120,000

*Stocks of motor fuel on August 26, 1933, aggregated 52,610,000 barrels.

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices—Revised to August 31, 1934)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.08	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Ector, Pecos, Wk'lr., Crane, Upton, Howard and Glasscock	*.75			9-29-33
	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and SW Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	.85			9-29-33
Saxet	*.85			9-29-33
Mirando	*.80			9-29-33
Pettus	*1.05			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	3-17-34
Eldorado East Field and Smackover	*.70			9-29-33
North Louisiana	29— .79	2¢	40— 1.08	9-29-33
Urania	*.85-*.87			1- 1-34
South Louisiana	Below			
Lockport	20— .80	2¢	34— 1.10	9-29-33
	Below			
Iowa, Cameron Mds.	20— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33

*All gravities—flat rate.
†Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Elk Basin	$*1.17			9-29-33
Grass Creek (Light)	*1.17			9-29-33
Big Muddy	*1.01			9-29-33
Rock Creek	*1.02			9-29-33
Sunburst	*1.35			9-29-33
Lance Creek	*1.02			8-25-33
Osage	*.62			8-25-33
Cat Creek	*.45			8-25-33
Pondera	*.65			8-25-33
Hog Back, N.M.	*1.00			9- 8-33
Lea County, N.M.	*.75			9-29-33
Mid-West States				
Lima	*1.30			9-29-33
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.17			9-29-33
California				
Signal Hill	14— .65	1¢	16—$ .66	9- 6-33
	17— .69	2¢	22— .84	9- 6-33
	23— .88	3¢	30— 1.09	9- 6-33
Seal B.,Alamitos Hts.	19— .65	3¢	20— .68	9- 6-33
	21— .72	4¢	22— .76	9- 6-33
	23— .81	4¢	25— .93	9- 6-33
	27— .98	4¢	30— 1.10	9- 6-33
Huntington Beach	14— .65	4¢	15— .69	9- 6-33
	16— .72	3¢	19— .81	9- 6-33
	20— .83	3¢	28— 1.07	9- 6-33
	29— 1.09	3¢	30— 1.12	9- 6-33
Inglewood	14— .65	4¢	16— .73	9- 6-33
	17— .76	4¢	18— .80	9- 6-33
	19— .83	4¢	20— .87	9- 6-33
	21— .90	4¢	22— .94	9- 6-33
	23— .97	4¢	24— 1.01	9- 6-33
Playa del Ray	14— .65	1¢	15— .66	9- 6-33
	16— .69	4¢	17— .73	9- 6-33
	18— .76	4¢	19— .80	9- 6-33
	20— .83	4¢	21— .87	9- 6-33
	22— .90	4¢	23— .94	9- 6-33
	24— .97	3¢	25— 1.00	9- 6-33
			26— 1.04	9- 6-33
Olinda-Brea Canyon	14— .65	4¢	16— .73	9- 6-33
	17— .76	3¢	28— 1.10	9- 6-33
Athens-Rosecrans Domingues	23— .83	3¢	24— .86	9- 6-33
	25— .90	4¢	26— .94	9- 6-33
	27— .97	3¢	29— 1.04	9- 6-33
	30— 1.08	4¢	31— 1.12	9- 6-33
			32— 1.15	9- 6-33
Elwood (fob ship)	33— 1.03	3¢	37— 1.15	9- 6-33
Torrance	14— .65	1¢	15— .66	9- 6-33
	16— .69	3¢	20— .81	9- 6-33
	21— .83	3¢	26— .98	9- 6-33

*All gravities—flat rate.

DISTRICT	Low Gra .	Dif.	High Grav.	Date
Richfield	15—$ .65	2¢	16—$ .67	9- 6-33
	17— .70	4¢	20— .82	9- 6-33
	21— .85	4¢	22— .89	9- 6-33
	23— .93	4¢	24— .97	9- 6-33
	25— 1.00	4¢	27— 1.08	9- 6-33
	28— 1.11	4¢	29— 1.15	9- 6-33
Whittier-LaHabra	15— .65	3¢	18— .74	9- 6-33
	19— .78	3¢	24— .93	9- 6-33
Montebello	19— .65	1¢	20— .66	9- 6-33
	21— .69	3¢	22— .72	9- 6-33
	23— .76	4¢	24— .80	9- 6-33
	25— .85	4¢	26— .89	9- 6-33
Coyote Hills	16— .65	3¢	19— .74	9- 6-33
	20— .78	3¢	29— 1.05	9- 6-33
	30— 1.09	3¢	34— 1.21	9- 6-33
Santa Fe Springs	21— .72	4¢	22— .76	9- 6-33
	23— .79	4¢	25— .87	9- 6-33
	26— .90	4¢	28— .98	9- 6-33
	29— 1.01	4¢	30— 1.05	9- 6-33
	31— 1.08	4¢	33— 1.16	9- 6-33
	34— 1.19	4¢	35— 1.23	9- 6-33
	36— 1.26	4¢	38— 1.34	9- 6-33
New Hall, Mckittrick, Kern River	14— .57		19— .57	9- 6-33
Midway Sunset, Elk Hills,Buena Vista Hills	17— .57	4¢	18— .61	9- 6-33
	19— .64	3¢	22— .73	9- 6-33
	23— .77	4¢	33— 1.17	9- 6-33
Lost Hills	17— .57	4¢	21— .73	9- 6-33
	22— .76	3¢	30— 1.00	9- 6-33
Coalinga	17— .57	1¢	18— .58	9- 6-33
	19— .62	3¢	21— .68	9- 6-33
	22— .72	3¢	25— .81	9- 6-33
Wheeler Ridge	17— .57	1¢	18— .58	9- 6-33
	19— .61	3¢	25— .79	9- 6-33
Kettleman Hills	33— .93	3¢	39— 1.11	9- 3-33
Pennsylvania				
Bradford	*2.25			4- 1-34
Sw Pa., Pipe Line	*2.22			4- 1-34
Eureka Pipe Line	*2.17			4- 1-34
Buckeye Pipe Line	*2.07			4- 1-34
Corning Grade	*1.20			9-11-33
Michigan				
Central Michigan	*1.20			9-30-33
Muskegon	*.70-1.00			12-31-33
Canada				
Petrolia	*2 10			9- 9-33
Oil Springs	*2.17			9- 9-33

*All gravities—flat rate.

MAJOR PRICE CHANGES

	Penns. (Nat. Tr.)	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
March 5, 1933	.....	.....	Cut 24¢
May 2, 1933	.....	Cut 19¢	.....
May 9, 1933	Cut 20¢	.....	.....
May 22, 1933	Up 10¢	.....	.....
June 19, 1933	Up 10¢	Up 19¢	.....
June 26, 1933	Up 10¢	.....	Up 9-12
July 6, 1933	Up 13¢	Up 10¢	.....
July 17, 1933	Up 15¢	.....	.....
July 28, 1933	Up 15¢	.....	.....
August 11, 1933	Up 10¢	.....	.....
August 24, 1933	.....	Up 10¢	.....
August 30, 1933	Up 15¢	.....	.....
September 6, 1933	Up 10¢	Up 10¢	Up 15¢
September 8, 1933	.....	Up 15¢	.....
May 1, 1934	Up 10¢	.....	.....

CRUDE PRODUCTION TAXES

Oklahoma—Three percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

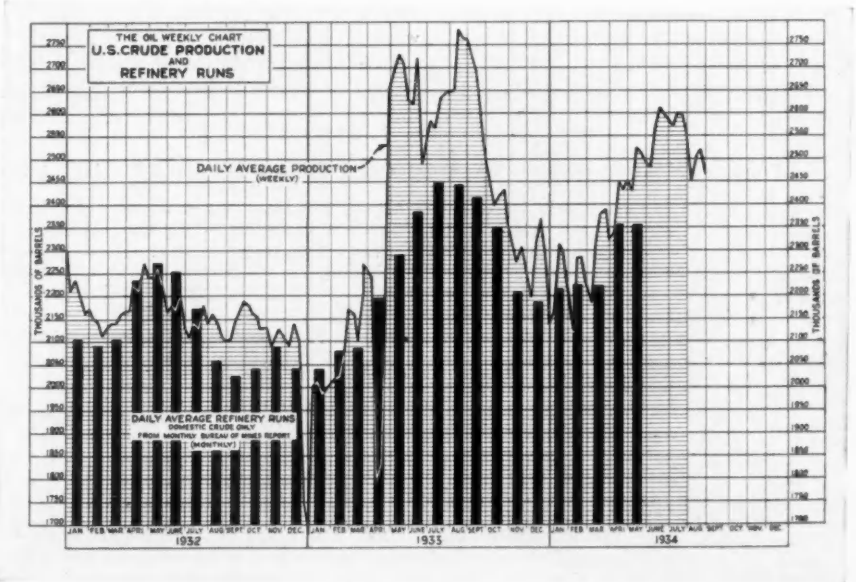
Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Three percent of gross value at well and ½-cent per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.



(*Continued from page 30*)

allowable output of gasoline was also smaller under the federal government's program, and that reduced allowable was reflected in a substantial reduction of gasoline stocks during August. On August 25 stocks of finished gasoline aggregated 46,120,000 barrels, according to the American Petroleum Institute, as compared with 48,597,000 barrels on hand July 28. The August 25 figure also showed up especially well in comparison with that for the corresponding date a year earlier, when stocks amounted to 52,610,000 barrels. When the oil code became effective in early September, 1933, the stocks had aggregated 50,913,000 barrels. Thus the gasoline stocks have been materially reduced since inauguration of the code.

Drilling Declines

Largely in consequence of lower crude production allowables for August, drilling slumped somewhat from the year's peak reached in July, well completions averaging 51.3 daily in August as compared with 53.6 daily in July. The August average was also slightly under that of 51.5 daily for June. But the August drilling was about 70 percent higher than in August, 1933, when completions averaged only 30.7 daily.

The drilling statistics are interesting in comparing completions for the first eight months of this year with those last year. Those for this year are almost double those of last. Through August the 1934 completions aggregated 11,390, compared with 6488 wells drilled by the end of August, 1933. By the close of August, 1934, almost as many wells had already been drilled as were sunk in all of 1933, last year's total having been 11,700 wells, with the closing four months of the year bringing a great spurt in drilling under influence of NRA and the oil code.

Reduced drilling in August, 1934, compared with July, resulted mostly from a substantial contraction of activity in Texas although Louisiana, Rocky Mountain states, and Michigan also recorded slightly less field work. Those declines were sufficient to more than offset a considerable increase in activity in the Eastern States and small increases in Oklahoma, New Mexico, and California. In Kansas, Arkansas, and the Southeastern States drilling continued during August at about the same proportions as in July.

In Texas completions averaged only 27.2 daily in August as compared with 31.4 daily in July. This decline resulted from a sharp curtailment of drilling in North Texas and a considerable contraction of work in the East Texas field. The reduced activity in those areas much more than canceled increases in East Central Texas, West Texas, and the Panhandle, with July drilling rates continuing through August in West Central Texas and on the Gulf Coast. In the East Texas field wells were completed at the rate of 10.3 daily in August, compared with 12.4 daily in July. The North Texas completions averaged only 4.6 daily in August, as against 7.2 daily in July.

Extreme drouth conditions in some portions of the Mid-Continent area were in part responsible for decreases in drilling work.

Campana, Argentina, Fire Causes Big Loss of Life

Press dispatches declared a favorable wind had helped bring the $18,000,000 fire at National Oil Company's refinery at Campana, Argentina, completely under control August 30. Early reports of 14 lost lives were cut down by an official statement issued to the effect that only two lives were lost, one person was missing, three were gravely injured and 19 were in hospitals.

It was thought that some workman had lighted a cigarette in the danger zone.

United Press dispatches reported 10 tanks destroyed by fire August 28 and an additional 14 destroyed by the same agent August 29. Loss of stocks was reported at 40 million gallons the first day of the fire.

All lines of communication in the vicinity of the refinery were down, though word was gotten through to Buenos Aires, bringing fire fighting brigades from that city to assist the citizens of Campana and Argentine cowboys in attempts to check the spread of the flames.

Injunction Balks Papoose at Tacoma

Seattle, Wash.—In connection with charges that the gasoline on board the tanker Papoose, intended to be discharged at Tacoma, was produced in violation of quotas established for the Texas oil fields, Federal Judge John C. Bowen, on August 26, issued a temporary injunction at Seattle restraining the unloading of the cargo in the Puget Sound area.

Application for the order was filed by the federal district attorney.

The tanker was loaded with what is reported to be East Texas gasoline at Houston, and an attempt was made to unload at San Francisco but federal authorities prevented the discharge. Government representatives charge the sale of this gasoline on the West Coast would demoralize the present stable market. Another cargo of East Texas gasoline is reported en route the West Coast and efforts will be made to prevent the unloading of its cargo also.

C. A. Young, secretary of the American Petroleum Institute's Division of Production, has prepared a new roster of the Pipe Line Committee, revised as of June, 1934. Copies are available from the Division of Production headquarters, 1508 Kirby Building, Dallas, Texas.

Monthly Summary of United States Drilling and Production, August, 1934

State—	Month of August, 1934						Cumulative, January through August, 1934					
	Completions	Oil wells	Gas wells	Failures	Initial Prod. Bbls. Daily	*Total Bbls. Oil Prod.	Completions	Oil wells	Gas wells	Failures	Initial Prod. Bbls. Daily	*Total Bbls. Oil Prod.
Oklahoma	180	105	8	67	69,221	15,245,900	1,315	835	71	409	691,273	120,422,500
Kansas	89	67	1	21	32,584	4,125,250	609	417	13	179	197,568	30,344,050
Texas	761	562	28	171	2,089,426	31,053,150	6,620	4,899	176	1,545	20,111,930	239,419,800
Louisiana	67	37	4	26	22,715	2,963,700	509	260	34	215	128,853	19,983,400
Arkansas	9	2	..	7	105	974,650	51	18	..	33	2,510	7,605,500
Southeastern States	5	..	1	4	.....	.....	27	....	6	21	.....	.....
Eastern States	221	106	60	55	4,474	3,162,400	1,394	586	463	345	14,533	24,013,050
Michigan	39	25	4	10	9,180	881,700	324	217	26	81	155,667	7,018,350
Rocky Mountain States	23	15	2	6	2,350	1,590,600	145	95	15	35	16,008	10,526,050
New Mexico	13	9	..	4	24,540	1,467,550	61	43	4	14	116,880	10,938,150
California	30	26	..	4	50,188	15,576,800	335	234	..	101	340,294	118.108,950
Total	1,437	954	108	375	2,304,783	77,041,700	11,390	7,604	808	2,978	21,775,516	588,379,800

*Preliminary, subject to revision.

Men In the Industry's News
(Continued from page 12)

HAROLD G. NEELEY, president of Iron Mountain Oil Company, Fort Worth, departed last week accompanied by members of his family for a vacation trip in the Middle West, including a visit to his former home at St. Marys, Ohio. Prior to his departure work was started on the first two tests to be drilled by the company in West Texas.

PAUL R. MARTIN, chief scout for the Fort Worth division of The Pure Oil Company, is vacationing in the mountains of New Mexico.

C. ANDRADE III, president of Imperator Oil Corporation, Dallas, departed last week for a vacation at the popular summer resorts in California.

JOHN W. HERBERT III, president of Herbert Oil Company, Fort Worth, cut short a vacation in Europe to reach the bedside of his father, John W. Herbert II, 81, who died August 26 in a New York hospital as result of a foot infection gained while playing golf. Funeral services were held August 28 in New York City.

E. A. HANSEN, deputy supervisor for the Oklahoma-Kansas-New Mexico division of the United States Geological Survey, is on a detailed tour of inspection of the Indian and other developments on the public domain.

JOHN C. DAY, formerly with Barnsdall Refining Company, has been made secretary of the Refinery Allocation Agency for Region No. 4, under the oil code, with headquarters in Tulsa. He succeeds E. H. Ritter, who was given an indefinite leave of absence because of ill health.

A. F. DABELL, resident general manager of Trinidad Petroleum Development Company, Trinidad, B. W. I., is in England on vacation.

GEORGE E. DORSEY, formerly chief geologist for Magnolia Petroleum Company, Dallas, has been transferred to New York, where he assumes the position of chief geologist for Socony-Vacuum Corporation. S. A. Thompson, formerly chief geologist for Vacuum Oil Company, Houston, and more recently geologist in the Shreveport, Louisiana, district for Magnolia Petroleum Company, has been appointed to succeed Mr. Dorsey at Magnolia Petroleum Company.

Oil Exports from U. S. Total $19,122,630 in June

Petroleum and petroleum products from the United States in June had a value of $19,122,630, or slightly less than one sixth of the total value of United States crude and petroleum products exported during the first six months of the year, which amounted to $115,620,022.

Crude petroleum exported from the United States in June was slightly in excess of its pro rata sixth, having amounted to 3,794,628 barrels as compared with a total of 18,840,723 barrels during the half of the year. Bulk kerosene and residual fuel oil exports also were slightly up.

According to figures released by the United States Department of Commerce, Bureau of Foreign and Domestic Commerce, the following table represents the value and amount of exports of crude petroleum and petroleum products from the United States to foreign countries for the first six months of 1934:

Details of Petroleum Exports for June and First Six Months of 1934

PETROLEUM and PRODUCTS (Barrel=42 gallons)	June, 1934		Six Months Ending June, 1934	
	Quantity	Dollars 19,122,630	Quantity	Dollars 115,620,022
Petroleum, crude ..... bbl.	3,794,628	4,630,886	18,840,723	23,014,332
Natural gasoline ..... bbl.	166,528	313,556	658,296	1,164,651
Refined oils ..... bbl.	5,281,564	13,155,146	32,944,611	84,076,888
Gasoline, naphtha, and other finished light products .... bbl.	1,779,980	4,006,260	11,662,747	28,302,807
In bulk ..... bbl.	1,642,912	3,291,705	11,057,409	25,010,423
In containers ..... bbl.	137,068	714,555	605,338	3,292,384
Illuminating oil (kerosene) .... bbl.	962,104	2,198,077	4,711,483	10,586,961
In bulk ..... bbl.	866,850	1,706,867	4,165,538	7,810,658
In containers ..... bbl.	95,254	491,210	545,945	2,776,303
Gas oil and distillate fuel oil bbl.	689,494	948,571	6,877,972	9,543,454
Residual fuel oil ..... bbl.	1,193,436	1,045,787	5,656,627	4,734,317
Fuel or bunker oil for vessels in foreign trade (not included in Domestic Exports) ..... bbl.	2,529,680	2,817,164	15,466,080	16,240,168
American vessels ..... bbl.	1,437,452	1,521,774	8,924,605	8,867,674
Foreign vessels ..... bbl.	1,092,228	1,295,390	6,541,475	7,372,494
Lubricating oil ..... bbl.	651,569	4,894,313	3,996,619	30,472,217
Red and pale ..... bbl.	393,124	2,727,765	2,478,681	16,237,726
Black ..... bbl.	71,783	202,770	218,401	832,948
Cylinder ..... bbl.	186,662	1,963,778	1,299,537	13,401,543
Mineral spirits ..... bbl.	2,867	18,472	21,247	133,922
Insulating or transformer oils ..... bbl.	1,627	18,502	14,188	159,130
Light lubricating oils in small packages ..... bbl.	487	25,164	3,728	144,080
Lubricating greases ..... lb.	5,924,137	260,624	38,182,555	1,693,718
Paraffin wax ..... lb.	12,182,765	522,177	97,948,911	3,943,132
Unrefined ..... lb.	3,646,993	144,704	40,494,731	1,517,624
Refined ..... lb.	8,535,772	377,473	57,454,180	2,425,508
Petroleum asphalt ..... tons	11,405	221,183	88,749	1,516,366
Petroleum coke ..... tons	1,969	19,058	31,615	210,935

Humble Will Refine Crude From Colombia at Baytown

Between 17 and 20 percent of crude produced in Colombia, South America, will be routed by September or October to the Texas Gulf Coast for refining at the Baytown plant of Humble Oil & Refining Company and then for export to foreign markets.

Executive Vice President H. C. Weiss of Humble Oil & Refining Company announced August 27 the first shipments of Colombian crude oil are expected late in September, by which time necessary changes in the Baytown plant will have been made to take care of the 10,000- to 12,000-barrel addition to the plant's daily processing capacity. Colombia's export business will be increased by two cargoes weekly.

A communication received August 28 from Alberto Lobo-Guerrero, chief of the department of mines and petroleum of Colombia, states that the only active producing area in Colombia is the de Mares concession, operated by Tropical Oil Company, a subsidiary of International Petroleum Company of Canada, which is a subsidiary of Standard Oil Company of New Jersey, as is Humble Oil & Refining Company.

The de Mares concession produced 1,683,691 barrels in June, 1934, or at the daily rate of 56,123 barrels. Up through June 30, 1934, this concession had produced 139,686,910 barrels, which was an asphaltic base Oligocene and Eocene oil. Gravity of the oil ranges from 23 to 30 degrees, averaging about 26 degrees.

A chart from Alberto Lobo-Guerrero, showing cumulative production records of the de Mares concession, follows:

CRUDE PRODUCTION THROUGH JUNE 30, 1934 OF THE "CONCESION DE MARES," COLOMBIA S. A.

(Net Barrels of 42 Gallons)

Years	Yearly Production	Accumulative	Year of 1934	
1921	66,750	66,750	January	1,012,780
1922	322,786	389,536	February	899,471
1923	424,875	814,411	March	1,017,417
1924	444,744	1,259,155	April	1,193,736
1925	1,006,708	2,265,863	May	1,730,095
1926	6,443,587	8,709,450	June	1,683,691
1927	15,002,175	23,711,625		
1928	19,895,677	43,607,302		
1929	20,384,547	63,991,849		
1930	20,345,916	84,337,765		
1931	18,237,190	102,574,955		
1932	16,417,124	118,992,079		
1933	13,157,641	132,149,720		
To June 30, 1934		139,686,910	Six months	7,537,190

Japs Get What U. S. Loses In Manchurian Fuel Trade

United States, which supplied over half of the gasoline and kerosene consumed in Manchuria during 1933, is losing a substantial amount of that trade due to the aggressive marketing activities of the Japanese.

Japanese refineries made heavy inroads into the kerosene trade taking about a third of the market. The attitude of the customs laws which allows Japanese kerosene of lower quality than American and British kerosene and described as "light oil" to enter Manchuria on the payment of a duty one fourth that charged for the foreign kerosene, is responsible for the gain in the amount of Manchurian business done by the Japanese.

Manchuria Oil Company is constructing a refinery near Dairen which should be in operation in 1935. This plant will import crude oil and produce gasoline, kerosene, and fuel oil in sufficient quantity to supply initially about 20 percent of the present Manchurian demand. It is understood that the capacity of the plant will be increased.

The plant part of Japanese plans for obtaining a self-sufficient oil supply is subsidized by the Japanese navy, according to American Consul John Carter Vincent.

Six Months Argentine Output 1,085,685 Meters

Argentine Republic produced 1,085,685 cubic meters of crude oil during the first six months of 1934, bringing the total cumulative production of the republic up to 18,386,470 cubic meters since the first commercial production was obtained, according to Tomas M. Ezcurra, director general of the department of mines and geology.

Daily average production in the republic as of June 30, 1934, was 6031.58 cubic meters, coming from Comodoro Rivadavia, Plaza Hunicul, the Province of Salta, and the Province of Mendoza fields.

Comodoro Rivadavia, or Chubut, continues to lead the nation's producing fields, with 4570.42 cubic meters per day out of the above 6031.58 cubic meters.

Japan May Get Roumanian Crude on Barter Basis

United States Ambassador Joseph C. Grew, Tokyo, Japan, recently issued a statement saying that the Rumanian charge d'affairs is reported to have called upon the Japanese minister of commerce and industry and to have made the proposal that Japan buy petroleum from Rumania.

The Japanese minister stated that he hoped a trade on a barter system in the form of an exchange of Japanese goods needed by Rumania for petroleum, the supply of which is so important to Japan, would result from his talk with the Rumanian representative.

Nichi Nichi Shimbun, a Tokyo newspaper, commenting on the proposal, stated transportation costs would constitute a vital factor in any agreement reached.

Spanish Crude Supply By Russia to End

Who will supplant Russia as the principal supplier of oil to the Spanish Petroleum Monopoly?

Soyusmeftexport has been notified of the Spanish monopoly's intention to cancel the contract by which Russia has been supplying the oil. The contract expires at the end of 1934.

Spanish requirements are estimated at 600,000 tons annually. Russia has been supplying about 65 percent of that figure.

Argentina Wildcat at Tupungato Is Producer

Wildcatting activities of Yacimientos Petroliferos Fiscales at Tupungato, Province of Mendoza, have been successful recently, according to William C. Trimble of Buenos Aires.

According to Mr. Trimble's report, production has been found within 50 meters of the surface, and the director of Yacimientos Petroliferos Fiscales is credited with the statement that the output of this well will amount to about 25,000 liters per day.

Alberta Oil and Gas Development And Production Practices—1934

PRIOR to 1900 the search for oil and gas in Alberta was limited to several isolated tests with inadequate equipment. Results of these tests were far from encouraging, and the only discovery of note was that of natural gas in 1885 at Langevin—(now known as Alderson)—about 40 miles northwest from Medicine Hat. Following this, gas at 650 feet was also proven in 1900 at Medicine Hat by Canadian Pacific Railway Company. Authentic details of the volume and pressure are not available, but the discovery must have been encouraging as further wells were drilled which have assured an adequate supply for domestic and industrial consumption at Medicine Hat and Redcliff.

Further exploration led to finding a prolific gas supply at Bow Island which for many years was piped to Calgary. The only find of consequence near Calgary was in a well sunk at East Calgary. The volume and pressure were respectively 80,000 cubic feet per day and 285 pounds, insufficient to justify the assumption that ample reserves of gas were available in the vicinity.

Discovery of oil, not gas, by the individual or small groups has always been the main objective in deep well exploratory work.

In Alberta many tests for oil were drilled in early days at widely separated points, but no outstanding discovery was made, due to the majority of the tests having been abandoned at depths too shallow.

During the War

During 1913, Calgary Petroleum Products found oil at 1557 feet and 2780 feet in tests at Turner Valley. These finds, although small in quantity, proved the existence of high grade crude oil and led to the regrettable boom of 1913-1914 which was ended by the advent of the Great War. The latter necessarily curtailed further exploratory work and the only drilling carried on in the province in 1914-1922 was on a few wells commenced during the war. Several of these were in Turner Valley, but all were stopped when the small crude oil horizons mentioned above were reached.

During the war period the only discovery of note was finding commercial dry gas in the Viking area, from which gas requirements of Edmonton are now supplied.

Early Theory Exploded

In 1922, operators at Kevin Sunburst field in Montana revived interest in Alberta, and speculators renewed operations at Turner Valley. One of the wells started at this time was the well now known as Royalite 4. Indications in the several crude oil horizons reached by this particular well not proving spectacular, drilling was continued to 3450 feet at which point Palaeozoic limestone was encountered. Theory in world oil circles then was that it was useless to expect oil production in a limestone body below the first 150 to 200 feet after this formation was penetrated.

Operations at Royalite 4 having penetrated the limestone at approximately 400 feet, it was concluded that further deepening was hopeless. The final abandoning orders, however, had not been issued to the drillers, who, in continuing operations, penetrated a porous zone in the limestone at 3740 feet from which there suddenly issued a violent outburst of wet gas that prevented the tools being withdrawn. Immediately afterwards, from some unknown cause the well caught fire and could not be extinguished for some time.

The find was classed as a freak, and many skeptical forecasts were made that the flow of naphtha would not be of long duration; further that similar production was improbable in other wells that might be drilled in the area.

But No. 4, once controlled, continued to produce in increasing quantities un-

til a maximum daily flow of about 600 barrels of naphtha was obtained.

For over a year the importance of the discovery was not appreciated, but during 1925 and 1926 interest in oil development returned and a number of new wells were commenced. This temporary interest waned, and it was not until completion of Okalta 1, on the west flank of the Turner Valley structure, and Home 1, in the south approximately three miles from Royalite 4, that the full significance of the latter was appreciated.

For a time there ensued another hectic period of speculation which only was ended by the start of the depression in 1930.

To date, there have been commenced in the Turner Valley area 180 wells, only 50 percent of which were completed.

The majority of the producing wells were drilled directly to the limestone formation, and all crude oil horizons deliberately shut off by casing. From the commencement of production at Royalite 4 to the end of December, 1933, the total quantity of naphtha alone recovered in the Turner Valley area amounted to 6,453,088 barrels, of which approximately one-fifth came from Royalite 4.

Crude Horizons Undeveloped

During the drilling of the above limestone wells four distinct crude oil producing sands were proven, and in some of the wells the exclusion of the oil from these sands was only attained with difficulty. Crude oil at several wells has flowed from between shutoffs, but no intensive development thereof has been attempted. To the end of December, 1933, the total quantity of crude recovered amounted to 374,906 barrels.

This output has been obtained from a limited number of wells.

Failure to develop more intensively crude oil in the area would appear to be due to the high wax content. No determined effort to overcome the waxing and assist the oil flow has been made, despite the fact that one well without any special attention has produced to the end of 1933 a total of over 80,000 barrels.

Intensive development of the Turner Valley crude oil horizons under competent supervision may give a very encouraging return on the capital invested.

Production Practice

The method of operating the naphtha producing wells cannot be commended as presenting efficient engineering practice. The procedure, when the well reaches production, is to connect the well head to a separator in which the naphtha is recovered. The residue gas, on leaving the separator, is led in pipe lines to a distance where it is burned in open flares.

For several years wells were operated at the very low pressure of 200 to 400 pounds, and all efforts to get operators to increase this back pressure or completely close in their wells for test purposes were obstructed on the plea that any increase in the pressure held would result in the complete ruin of the wells.

Closing in and testing of all wells, however, was duly accomplished during 1931-1932 by the Provincial Government taking the necessary steps to enforce operators to have their wells tested. The latter, finding that the tests did not result in damage, immediately improved their operating methods by increasing the back pressure held on each well to a point approximating the full closed in pressure, with the result that there has since been a considerable reduction in the gas waste and an improvement in the gas-oil ratio.

A marked step towards efficiency was the erection of an absorption plant during 1933. In this plant over 100 million cubic feet of waste gas from the separators is passed through absorption oil daily and a considerable quantity of naphtha is recovered.

Greater Naphtha Recovery

As stated, in Turner Valley no serious thought appears to have been given to evolve efficient production methods. It has, however, long been evident that if the wells were operated either by tubing or some other means a greater quantity of naphtha would be recovered, the theory being that the naphtha is in a liquid state at the bottom of the wells, but, owing to the great depth and large diameter of production casings, the liquid cannot be lifted to the surface except in the form of vapour. In the initial stages of the field, production of naphtha in this manner, although uneconomical, was fairly high per well, but with a decline in the well pressures the quantity has fallen markedly. It is, therefore, paradoxical that operators have not attempted to develop a method which would overcome the production difficulties and thereby give a greater naphtha recovery with a consequent lowered gas rate.

Key Wells Recommended

Another phase which has been neglected is that of attempting to conserve the waste gas by utilizing this production through certain key wells for accelerating the flow of naphtha at producing wells. We may assume that at many points the porous zones in the limestone are sufficiently open to permit free intake of injected gas, which undoubtedly would move towards areas from which the naphtha is traveling to points of production. Cost of the necessary compressing machinery for this purpose would be considerable. But, as production results would benefit the operator, the necessary expenditure on an experimental compressing plant sufficiently large in power to inject the gas at pressures ranging from 1500 to 2000 pounds does appear justified.

No Surface Indications

Except for one or two insignificant seepages (oil exudations at the surface found in the north of the province), Alberta shows no sign at the surface of the underground wealth. In Alberta, with surface topography ranging from 2000 feet and higher above sea level and the country covered in most parts with glacial drift below which there is everywhere present impervious beds of shale, the absence at the surface of active oil seepages is not surprising, as any indications of oil coming from underground pools would necessarily require extraordinary high pressure to force a path through the strata above mentioned.

When this lack of surface indications and the necessity of "blind groping" are taken into consideration with the many and widely separated discoveries of oil encountered to date in deep wells, there appears possible justification for the assumption that Alberta is underlain by many vast underground seepages. And although small but remunerative productions can be obtained from these, the underground indications must all be classed as exudations emanating from the main deposits at greater depth. But whether the latter are within economical drilling depths or not is a question which can only be settled by drilling.

Discoveries

Taking the discoveries of oil in wells in sequence from north to south of the province the sites are as follows:

1. *Near the town of Athabaska.* Oil of 12.1° gravity Be., discovered at 1650 feet.

2. *Duvernay-Brosseau.* Oil bearing sands commencing at 1490 feet and continuing to 2020 feet—not tested for productivity—wells abandoned.

3. *Wainwright.* Oil varying in gravity from 18° to 23° Be., is produced from a few wells. Depths 2100-2250 feet. Two of these wells have each pro-

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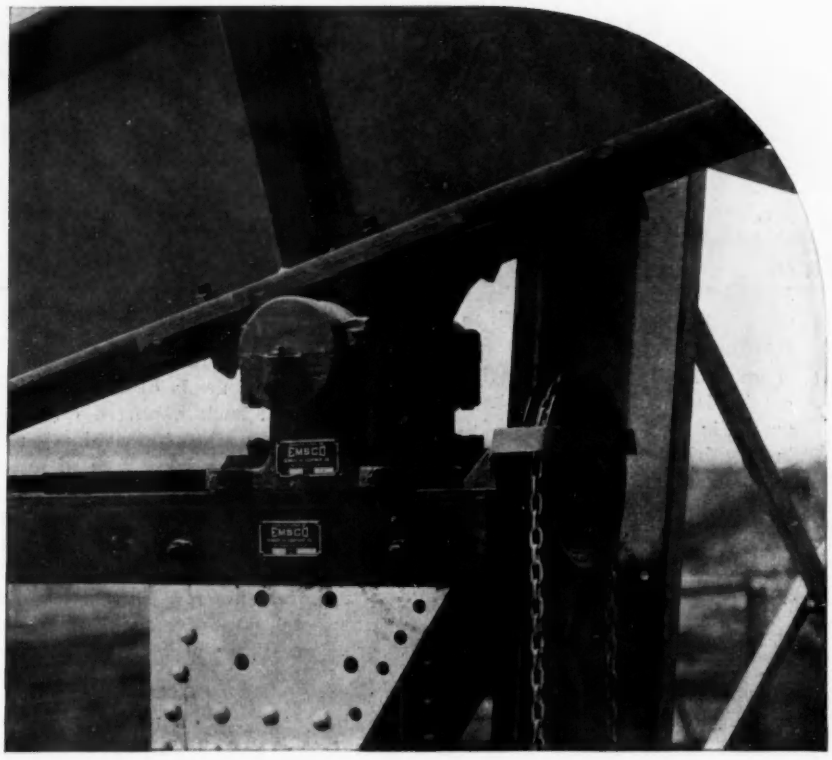

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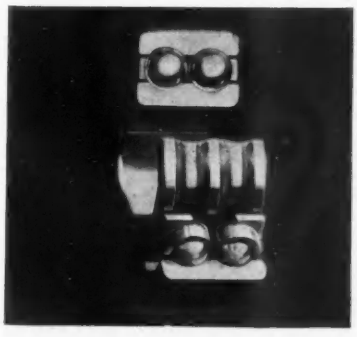

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duced over 20,000 barrels of crude oil to date—in all 57,883 barrels of crude have been produced from the Wainwright wells.

4. *Ribstone.* Oil discovered in four wells at depths 1800-1900 feet. The quality of the oil being low—14.5° Be., and the area isolated, the wells were abandoned.
5. *Oyen.* Low gravity oil discovered at 3080 to 3133 feet, but never developed as well had to be abandoned on account of engineering difficulties.
6. *Turner Valley.* Crude ranging in gravity from 35° to 55° Be., has been proven in four distinct oil sands during the drilling of practically all wells in the area. To date none of these oil sands have been intensely developed owing to the greater attraction of obtaining naphtha ranging in gravity from 60° to 75° Be., in the deeper limestone formation.
7. *Pekisko.* Crude oil 40°-45° in gravity Be., proven at 3878 feet but never developed on account of well engineering difficulties.
8. *Keho* near Lethbridge. Oil of 32.4° gravity Be., proven at various depths below 3680 feet.
9. *Skiff.* Oil of 20° gravity Be., proven at 3054 feet. Operations suspended since well completed.
10. *Red Coulee,* near Coutts. To end of December, 1933, 186,245 barrels of 31° gravity Be., oil have been produced from five wells ranging in depth between 2400 and 2500 feet.
11. *Twin River.* 20 miles west from Coutts. Oil proven in two wells at approximately 3875 feet; the gravity being very similar to that produced at Red Coulee.
12. *Spring Coulee,* near Cardston. Oil of light gravity encountered during drilling at 4550 and 4660 feet.

Although small quantities of oil were produced prior to 1925, the annual production in each year was insignificant and did not exceed 16,000 barrels for any one year. Commencing with 1925 intensive development started in the Turner Valley area where a total of 6,483,647 barrels of naphtha and oil have been produced of the total recorded production for the province, 7,152,262 barrels, to the end of 1933.

When it is considered that encouraging indications of oil have been proven at the points above enumerated, it may appear paradoxical in view of the large demand of crude oil in the prairie provinces, generally, that intensive development has not been undertaken at several of these areas. The principal reason for this lack of interest, however, would appear to be mainly due to prospecting operators being inadequately financed, and when the discoveries were not spectacular they lacked the necessary capital to continue drilling to prove the continuation of the productive oil sands.

Domestic Requirements

From an economical point of view, the immediate development of crude oil in Alberta is vital not only to the prosperity and welfare of this province but also to the adjoining provinces, as considerable crude oil has to be imported for the needs of each province. The cost of such imported oil represents at even the low valuation of $1.00 per barrel a large sum of money which, if retained within the dominion, would assist in a small way in solving some of the major economic difficulties which now prevail. As an example, the oil requirements for Alberta and Saskatchewan alone during the past two fiscal years have been as follows:

1932-1933

	Barrels
Alberta imports	997,560
Saskatchewan imports	1,564,947
Total imports	2,562,507
Alberta production	871,082
Total oil requirements	3,433,589

1933-1934

Alberta imports	1,370,665
Saskatchewan imports	1,600,569
Total imports	2,971,234
Alberta production	1,141,473
Total oil requirements	4,112,707

One of the refinery companies in Alberta has to pay approximately $3.50 per barrel for all oil imported. This company is not affiliated with any producing company and may, therefore, have to pay a premium on the oil purchased. Nevertheless, the rate at present paid appears to fully justify the contention that crude oil in Alberta should command at the well mouth a very remunerative rate per barrel, prices varying according to gravity.

The Red Coulee development is an outstanding example of what can be accomplished by concentrating work and drilling outwards at reasonable distances from the first productive well. It is highly probable that if the same procedure is introduced at Wainwright and any other point where oil has been proven, satisfactory and remunerative wells will be completed, with also the possibility of greater productions being discovered as each area is developed.

Foreign Technique Sought To Develop Gas in India

Sultan Chinoy of Bombay, India, recently left there for the United States in order to obtain services of natural gas experts in connection with a deposit of natural gas said to have been discovered in Broach, India.

Just prior to his departure from India to the United States, he was quoted in the press as follows:

"There is a vast store of natural gas which, according to the official geologist, is sufficient to justify my ambitious plans for its exploitation. I believe that within a year arrangements for the supply of gas from my field to the industrial centers in the presidency will be complete.

"I propose to put pipe lines to Ahmedabad and even to Bombay, which is only 250 miles away from the source of supply, and in the course of time to extend my network of supply lines to cover the presidency or at any rate its important portions."

Brazilian Exploratory Efforts Futile So Far

Several companies have been granted concessions for the drilling in Brazil, according to a recent statement received from Euzebio de Oliveira, director general of the geological and mineralogical service of Brazil.

While results from the drilling so far have been negative, the indications of natural combustible gas in insignificant quantities have been found at three points: Sao Pedro, State of Sao Paulo; Mallet, State of Parana; and Itaituba, State of Para. According to the director general, the first two of these are of Permian and the third is of the Devonian formation.

Liquefying Gas Plant Planned Near Talara

International Petroleum Company will erect a special plant at Talara, Peru, for liquefying propane and butane taken from a natural gas as soon as the organization of a company in Lima, Peru, to supply natural gas is completed. There is no gas company supplying illuminating and other gas for household use in Peru.

Engineers of International Petroleum Company estimate the time required to erect the liquefying plant will be less than four months.

The liquid will be shipped to Talara and other centers of distribution in steel cylinders containing 60 to 100 pounds of liquid gas under pressure of 125 pounds per square inch.

» » THE WEEK'S NEWS « «
from All Fields

HIGH SPOTS IN BRIEF

WITH Texas again showing old form in the number of new wells started, total new work for the United States last week as revealed by reports from principal areas was 412, while completions reported total only 310. A good average of success in making oil wells of the ones that were completed brought initial production to 455,900 barrels from 210 oil wells. East Texas had a short list of completions for the week which brought the initial average down to a degree, but some more big ones in California and New Mexico helped it upward again. (See tables,

East Texas

The most important development in East Texas was the recovery of a 17-foot saturated core in the Glen Rose section of the Trinity horizon in the old Mexia field. It is believed the test will make a commercial producer, giving the field a new start as a high gravity oil producing pool.

The Rusk pool, Cherokee County, received another setback when a failure was found 2¼ miles southeast of the discovery well. The Ponta area, eastern Cherokee County, attracted attention during the week when a core in a wildcat test showed oil saturation.

South Texas

Outstanding in South Texas was the finding of a 25-barrel per hour producer in the old Piedras Pinto pool, Duval County, which was productive before the Drake well. If it proves as good as indications the strike is of great importance.

The West Tuleta field, Bee County, received its first failure when the most northeasterly test found salt water. As a result of recent developments, which include finding of production in the Yegua sand, a rapid drilling campaign is getting underway in the Cole field, Webb and Duval Counties. A test located half a mile southeast of several gassers may furnished the first oil producer for the Caeser field, Bee County. Another producng horizon has been proved productive in the Driscoll field, Duval County. It is the Upper Government Wells sand at 3270-80 feet.

Gulf Coast

In the Louisiana Gulf Coast, the Bosco field of Acadia and St. Landry Parishes, was defined to the north and extended to the south one half mile. The extension well, which made 1090 barrels, was completed at the deepest depth for any coastal producer.

New Mexico

The Cooper field, Lea County, has been extended one half mile northeast by another large producing well. This field, which already is a prolific producing area of considerable extent, is expected to connect with the North Jal area. This belief was further confirmed last week when a well midway between the two fields was found to be running normal.

Texas Panhandle

Production on the south flank of the granite ridge, Carson County, has been extended one half mile north by an 80-barrel per hour well.

Oklahoma-Kansas

Another new oil pool has been opened in Russell County, western Kansas. This is the second new discovery for the county since the first of the year. The well is estimated good for 150 to 350 barrels per day. The Russell Doorstep pool received another producing horizon when a well made 815 barrels from the Oswald lime. The Robbins pool and Robbins extension, Sedgwick County, Kansas, have been linked together by a 292-barrel producer from the chat formation. The Ellinwood pool, Barton County, was extended eastward by a 506-barrel Siliceous lime producer.

In Oklahoma, operators are watching a wildcat test in the Fitts pool area, which if productive would extend production into Johnston County and result in extensive drilling campaign.

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Forty New Oklahoma Tests Are Completed

Tulsa, Okla.—There was a slight recession in field development the week just ended. Forty completions were reported, 10 fewer than the previous week. Twenty-five new oil wells accounted for 10,964 barrels of initial production, compared with the 30 wells the week before and which made 22,716 barrels initial. In addition there were four abandoned locations, two less than the week before and 11 dry holes, exactly the same number as the previous week.

The 40 completions accounted for 86,751 feet of hole drilled, and of that total 149 feet was in three old wells deepened.

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO COUNTY—		
Denver P&R Co., Sah Cam 1, cse se 33-10n-10w	*	....
CARTER COUNTY—		
Mudge Oil Co., Major 6, sw nw se 25-1s-3w	*	....
Samedan Oil Co., Trahern 4, sw se sw 31-1s-2w	10	2473
F. W. McHenry et al, Ratliff 1-A, nw nw sw 28-1s-2w	48	606
COAL COUNTY—		
Smith et al, Farmer 1, se se se nw 32-5n-9e	*	900
Choctaw, Thompson 1, sw ne sw 1-1n-7e	*	1680
CREEK COUNTY—		
Strozier, Newton 1, ne nw nw 35-17n-11e	*	2607
Gled Oil Co., Escoe 9, cnl nw se 27-18n-8e	80	1335
Bay State Oil Co., Tiger 2, sw sw sw sw 3-17n-8e	720	1417
F. O. Akin Oil Co., Kelly 1, nw se nw 2-17n-8e	*	3100
HUGHES COUNTY—		
Troupe Oil Co., Haskett 7, cnl se se 15-7n-8e	87	1185
Winona Oil Co., Street 2, nw ne nw 16-7n-8e	30	3106
Bonded Refining Co., Warren 1, nw nw se ne 22-7n-8e	10	1219
Rauch, Moore 3, ne nw ne ne 22-7n-8e	*	....
LINCOLN COUNTY—		
Home Gas Co., Freeman 1, nw sw ne 23-17n-6e	50	3117
MARSHALL COUNTY—		
R. A. Godfrey, Eppler 1, nw nw ne ne 36-7s-5e	30	519
R. A. Godfrey, Burge 6, se ne sw se 25-7s-5e	15	538
MUSKOGEE COUNTY—		
Allred, R. Drew 2, cwl sw ne 17-13n-16e	30	2088
Keeney Brothers, Berry 1, sw sw sw se 3-13n-16e	*	2160
NOBLE COUNTY—		
Continental Oil Co. et al, Bennett 1, se se nw 19-20n-1w	*	5232
OKFUSKEE COUNTY—		
Steckol et al, Pincham 2-A, se se nw se 2-10n-11e	65	1660
OKLAHOMA COUNTY—		
Phillips Petroleum Co., Wallace 3, nw se se 22-11n-3w	1006	6545
G. D. Warr & Carl Larkin et al, Beaucamp 2, sw sw se 22-11n-3w	882	6589
OKMULGEE COUNTY—		
Unger Brothers, Harrison 1-A, ne ne nw se 25-15n-14e	*	1652
OSAGE COUNTY—		
H. M. Mosier 2, sw nw ne ne 27-28n-10e (owdd)	50	1301
Sinclair Prairie Oil Co., 2, se se se 9-25n-6e	3526	2848
Skelly Oil Co., 7, ne nw sw 3-25n-6e	¶2-2653	2836
Carter Oil Co., Stanley 1, nw nw sw 2-25n-6e	528	2874
F. M. Pinney 3, sw se nw se 15-24n-8e	35	2289
Lewis Production Co. 3, nw nw se 28-24n-7e	70	2576
Sinclair Prairie Oil Co., 1, nw sw nw 12-24n-6e	*	2736
Norbla Oil Co. et al, 1, sw nw ne 26-23n-9e	*	2518
Link Oil Co. 9, csl sw nw ne 4-22n-12e	15	1445
PONTOTOC COUNTY—		
Crosby & Morran, Hardin 1-A, sw sw ne 30-2n-7e	*	....
POTTAWATOMIE COUNTY—		
Westgate Oil Co., Schrader 1, ne nw ne 6-6n-5e	198	4040
SEMINOLE COUNTY—		
Blackwell & Jones, Ferguson 2, sw nw sw 29-7n-8e	821	3116
STEPHENS COUNTY—		
Schermerhorn Oil Co., Shields 5, sw ne sw 13-1s-4w (owdd)	*	4192
Skelly Oil Co., Harmon 1, ne ne ne ne 27-1s-5w	2	950
Beard & Kolb, C. S. Wade 2, sw nw ne 11-2s-8w (owdd)	5	1761
TULSA COUNTY—		
Holderman, Doyle 1-A, cse sw 4-17n-14e	*	1540

*Failures; †Junked; ¶Million cu. ft. gas.

Fitts Area Awaits Outcome of Important Test

Ada, Okla.—Next producer for the Fitts area of southern Pontotoc County may be Magnolia Petroleum Company's Craddock 1, SEc Section 24-2n-6e, to the west of the rich pay in the area. It topped Hunton lime at 3732 feet, and in coring from 3736 to 3747 feet got a good show of oil, and was to core ahead, before stopping to set pipe.

W. A. Delaney et al's Craddock A-1, NW SW SE Section 25-2-6, also got a good show of oil in coring Hunton from 3510 to 3530 feet.

Interest in the Fitts area, however, is in Oklahoma Oil Corporation's Maytubby 1, SW NE SE Section 11-2s-8e, near the town of Wapanucka, in northeastern Johnston County, and which stopped at 3436 feet in the Simpson sand, and set six-inch casing at 3396 feet. If a producer it would launch a great development play south of the main Fitts area now prorated to 1000 barrels a day.

Each day brings news of the start of many new tests in the Fitts sector.

Fish Pool Wells Are Shut In Pending Conference

Wewoka, Okla.—The discovery of rich production in both the Wilcox and Cromwell sands of the Fish pool, southeast of this city, and taking in territory on both sides of the Seminole and Hughes county lines, has caused the state proration umpire to order all new wells there shut in pending a conference of operators. In the meantime, however, many new tests are being staked and preparations made to drill.

The Fish pool is several years old and has had a sporadic life, and when the Winona Oil Company and Jarvis & Holm, Inc., recently deepened Myers 1, Section 31-7-8e, and got a big Wilcox sand well along with lots of water, it revived interest in the area.

Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Sarkey 1, in NE NW SE Section 31-7-8, made 2110 barrels in 24 hours from 4125 to 4131 feet, in the Wilcox.

Burke-Greis Oil Company Yekecha 1, in CWL SW SW Section 29-7-8, made 720 barrels in 12 hours from Cromwell sand at 3038 to 3061 feet.

Champlin Refining Company's See 1, SE NE SE Section 30-7-8, made 1265 barrels in 24 hours from 3070 to 3079 feet in Wapanucka lime, and deepened dropped to 612 barrels and was cutting 40 percent with water.

Empire Oil & Refining Company Myers 1, in SW SE NE Section 31-7-8, made 2114 barrels in 24 hours from the Wilcox at 4105 to 4109 feet.

Want Oklahoma County Pool Reclassified

Tulsa.—Mid-Kansas Oil & Gas Company, Amerada Petroleum Corporation and Stanolind Oil & Gas Company have jointly petitioned the Oklahoma Corporation Commission for a reclassification of the Edmond pool of northern Oklahoma County.

It is now in Class D, or the wildcat group, and its wells allowed but 50 barrels a day. The three corporations seek a Class B or C rating and with a daily allowable of 1000 barrels per well.

The two gushers of the pool, Amerada-Stanolind Suneram 1, in NEc Section 6-13n-3w, rated as a 9900-barrel well, and Mid-Kansas Oil & Gas Company's Dahl 1, SEc Section 31-14n-3w, rated as a 10,000-barrel well, both are shut in to make up overproduction, while Mid-Kansas Oil & Gas Company's Messer 1, SEc Section 32-14n-3w, the discovery well, is making from 200 to 300 barrels a day now, making up its accumulated underage. It came in late in 1930, and by agreement was shut in until the summer of 1934, and then opened and produced around 700 barrels a day, until the southwest offset came in as a gusher, and it was then deepened into salt water at 6776 feet, but was recompleted and the water shut off.

The commission has set September 13 for a hearing on the application.

Starting Four Tests On Edmond 40 Acres

Edmond, Okla.—While the controversy between the National Oil Administration and Easton Oil Company goes on as to the proper well spacing for the Crescent field of Logan County, Gulf Production Company of Oklahoma, owner of a 40-acre tract south of proven production in the new Edmond pool, is starting four wells on its property while operators are starting to discuss ways and means for a one-to-40-acre basis there.

Gulf Production Company of Oklahoma is in no wise associated with Gypsy Oil Company or Gulf Production Company, both Mellon subsidiaries.

Oklahoma City.—A bitter municipal fight is on at Oklahoma City over the matter of whether the city shall issue $4,000,000 in bonds to construct or purchase a municipal gas distribution system, or to reject the bonds and to continue to allow the Oklahoma Natural Gas Corporation to distribute gas. The election is to take place October 2.

Oklahoma Asking Bids On State Oil Leases

Oklahoma City.—The Commisioners of the Land Office of Oklahoma are keeping a close tab on oil developments in the state, especially adjacent to any unleased state school lands.

The commissioners have asked oil companies to file sealed bids by September 10 upon four tracts in Southwestern Oklahoma, near new drilling activity. Two 80-acre tracts are located in Comanche County, being: The E½ NW Section 30-3n-10w, and W½ NW Section 20-3n-10w, and one 40 acres, the NE NW Section 22-2n-26w, and an 80 acres, the S½ NW Section 22-2n-26w, are in Harmon County.

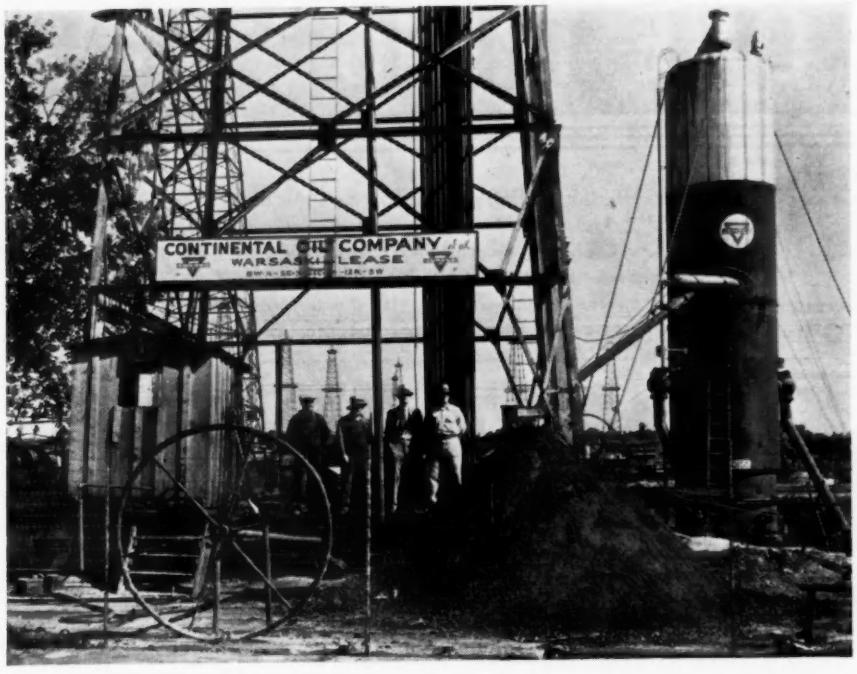
On September 24 the commissioners will receive bids for 23 tracts in five central and north-central counties, as follows:

Cleveland County—E½ SE Section 26-10n-1w; W½ SE Section 26-10n-1w; lots 5 and 6 of NW Section 36-10n-1w, and W½ SW Section 36-10n-1w.

Oklahoma County—N½ NE Section 36-14n-1w; S½ NE Section 36-14n-4w; E½ SW Section 36-14n-4w, and W½ SW Section 36-14n-4w.

Logan County—E½ SE Section 36-16n-2w; W½ SE Section 36-16n-2w; E½ SW Section 36-16n-2w, and W½ SW Section 36-16n-2w.

Pawnee County—E½ SE Section 36-



Here's a good idea of cleaning out problems oil companies are encountering in the Oklahoma City field. This pile of sand came from one well. Reading from left to right: E. D. Ackerman, driller, and R. L. Cantine, tooldresser, with Anderson & Kerr; J. Ed Ragan, sales representative, Miller Sand Pump Company at Oklahoma City and C. B. Griffin, superintendent Continental Oil Company.

22n-6e; W½ SE Section 36-22n-6e, and E½ SW Section 36-22n-6e.

Kay County—N½ NE Section 13-27n-1e; S½ NE Section 13-27n-1e; N½ NW Section 13-27n-1e; S½ NE Section 13-27n-1e; N½ SE Section 13-27n-1e; S½ SE Section 13-27n-1e; N½ NW Section 13-27n-1e; S½ NW Section 13-27n-1e; N½ SW Section 13-27n-1e, and S½ SW Section 13-27n-1e.

Oklahoma City Wilcox New Potentials Ordered

Oklahoma City.—The taking of new potentials for the Wilcox sand zone of the Oklahoma City field will start at 7 o'clock the morning of September 1, by order of the Oklahoma Corporation Commission. It will take at least a month, if not longer, to test each well in the area. The proration umpire is to closely watch the test so he can be furnished with detailed information on operators, wells, size of casing, depth of flow string, original depth data and past and present production figures.

The umpire has been ordered to forbid the shooting of deep sand wells at night and all shots must be set off between the hours of 8 a.m. and 4 p.m., and none made on holidays.

Second New Pool Opened in Russell County

Wichita, Kans.—The second new pool of the year for Russell County, which bears the honor of having developed the first oil area for Western Kansas, appears to have been assured by W. L. Hartman and H. H. Blair with Lario Oil & Gas Company getting a siliceous lime well in Neidenthal 1, NEC 23-14-15w.

The lime pay was topped at 3246 feet and at 3250 feet it filled up 500 feet of 38.5 gravity oil in 40 minutes and the next 90 minutes oil stood 1700 feet in the hole. It was then shut in for tankage. Scouts estimated it good for 150 to 350 barrels a day natural.

Aylward Brothers and Skelly Oil Company at Holland 1, NEC 28-13-14w, gave the Russell doorstep pool another producing horizon by making 815 barrels the first 24 hours on its potential test from the Oswald lime at 3013 to 3204 feet. All other tests in the Russell doorstep area have produced from the Siliceous lime, and Tom Palmer, discoverer of the pool, is starting a direct offset of the new well.

The north extension of the Robbins pool and the pool itself, both south of Wichita, in Sedgwick County, have been linked up by E. B. Shawver at Nolan 2, NW SW NW 21-28-1e, for a 292-barrel well in the chat formation. The new well is a south offset of Phillips Petroleum Company's Nolan 1, SW NW NW of 21-28-1e, that made 666 barrels a day on its potential test. There are six wells in the north extension, which Shawver opened in May.

The Ellinwood pool of Barton County was extended to the east by Stanolind Oil & Gas Company's Werries 1, C SW SW 10-20-11w, for 506 barrels a day in the Siliceous lime at 3298 feet. It is the tenth well for the area and forces Derby Oil Company to drill an offset in the Arkansas River bed.

Old Oklahoma Wells Are Abandoned

Nowata, Okla.—Of the 98 exhausted oil wells that were plugged last month, records of the state oil and gas inspectors show that 30 were in the shallow Bartlesville sand area of Nowata and Washington County. One firm, Keystone Supply Company plugged 26 near this city. Many of them were from 10 to 25 years old.

Seven of the plugged wells were west of Range 1w, and 91 east of Range 1e. Seminole County has 12; Okfuskee County 10; Osage County 6; Tulsa County 6; Creek County 8; Pottawatomie County 4; Payne County 2, and Okmulgee County 1.

Northern Oklahoma Wildcat Test Spudded

Braman, Okla.—Sultan Oil Company has spudded Patton 1, in SWC SE Section 19-29-3w, west of the old Braman pool, but in northeastern Grant County. It is on a 3000-acre block, a part of which is in Sumner County, Southern Kansas.

In 1927, Mississippi Valley Company and Phillips Petroleum Company drilled to 4850 feet in Atkinson 1, in SEC of 18-29-3w, without finding anything worth saving, but the new test is believed to be upon a subsurface structure the Atkinson test missed.

Kansas Operators Completed 24 Tests

Wichita, Kan.—Twenty-four completions were reported from Kansas pools this week. While 19 oil wells were brought in, three more than the previous week, their initial of 8285 barrels

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showed a loss in comparison with the 9458 barrels the 16 wells did the week before. Five dry holes completed the compilation.

There was 71,228 feet of hole cut in drilling the 24 completions, and that accounted for 26 feet of hole plugged back in one old well, and 49 feet of new hole made in deepening two old wells.

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Atlantic Oil Co., Straub 1, cse nw 36-18s-11w	45	3313
BUTLER COUNTY—		
Garden, Crowley 1-A, cs½ se ne sw 14-28s-5e	52	2112
COWLEY COUNTY—		
Patton et al, Sitton 2, sw sw sw nw 29-31s-6e	308	2947
ELLSWORTH COUNTY—		
Aylward, Stratman 9, sw nw se 1-17s-10w	429	3262
GREENWOOD COUNTY—		
Phillips Petroleum Co., Hughes 6, nw se nw 10-22s-10e	*	2313
Aikiman Oil Co., Clock 3, ne se ne nw 27-22s-13e	8	1875
Dalton et al, Sauder 1, cnl nw nw 19-23s-13e	*	2084
Shull Drilling Co., Hinchman 1-A, sw sw sw ne 17-24s-13e	3	1631
HARVEY COUNTY—		
Sinclair Prairie Oil Co., Edger 3, se se sw 19-22s-3w (owdd)	607	3532
KINGMAN COUNTY—		
Skelly Oil Co., N. Miles 4, sw sw se 19-27s-10w	141	3505
MARION COUNTY—		
Harewood, Cowman 3, nw se sw 11-17s-4e	127	2378
McPHERSON COUNTY—		
Mid-Kansas O&G Co., Garrett 3, ne se ne 30-19s-1w	174	3417
Shell Petroleum Corp., Griffin 6, se sw nw 14-19s-2w	545	3375
Roth et al, Swanson 1, ne sw ne 13-19s-3w (owdd)	¶1-476	3010
Shell Petroleum Corp., Koehn 2, cnw se ne 16-21s-3w	271	3414
RENO COUNTY—		
Barnsdall Oil Co., Sabin 3-B, sw ne ne 11-23s-4w	¶12-149	3376
Sabin 4-B, ne nw ne 11-23s-4w	1573	3609
Sinclair Prairie Oil Co., Base 5, csw se 26-23s-4w	370	3372
RICE COUNTY—		
Davis et al, Christopher 2, ne sw se 31-19s-9w	1449	3241
Davis et al, Katterjohn 1, sw sw sw 13-19s-10w	*	3338
Continental Oil Co., Foote 2, nw nw se 7-20s-9w	1018	3292
RUSSELL COUNTY—		
Ashby, Whitson 1, nw sw sw 16-11s-15w	540	3175
SEDGWICK COUNTY—		
Sovereign Oil Co., Nickols 1, cnw se 20-25s-1w	*	2896
Connell, Cross 1, ne se ne 27-25s-1w	*	2761

*Failures; †Junked; ¶Million cu. ft. gas.

Oklahoma City.—The Oklahoma Tax Commission reports that with August figures almost seven eighths in, it shows an increased consumption of gasoline over the same month of 1933. Gasoline tax collections are almost $100,000 ahead of the total for the eighth month of last year. Collections taken in for August, but on July sales, were $940,268.70, and the commission hoped they might pass the million dollar mark.

Glen Rose Sand Production At Mexia Indicated

Mexia.—Recovery of 17 feet of oil saturated core in the basal Glen Rose section of the Trinity horizon on the west flank of the Mexia field, oldest Woodbine sand area, by Peyton Brothers et al's Kake Steubenrauch 1, promises to give the field a fresh start as a source of high gravity oil production. Saturated lime at 5620-5637 feet was believed to be capable of yielding commercial production. Cores recovered above and below this section showed excellent porosity with a few cores missed.

This deep test was taking a core below 5656 feet late Friday. Meanwhile the owners were deliberating whether to shut down and run pipe or try a drill stem test. The latter was considered hazardous since the hole is open below surface pipe cemented at 180 feet.

Outlook for commercial production in the Trinity section has been looked upon with favor since E. L. Smith Oil Company et al's test on the same tract and a nearby location developed a big flow of sweet gas with a spray of oil before experiencing a junked hole while trying to run casing about seven years ago.

The latest test on the Steubenrauch tract entered the Glen Rose limestone or top section of the Trinity at 4580 feet, with surface elevation of 541 feet having cut through the fault to the upthrow side near the top of the Glen Rose. The saturated cores were from Oolitic lime while the best production is anticipated from the Travis Peak or Red Bed series. The latter horizon is due to be reached within about 65 feet, according to W. A. Reiter, Mexia geologist, responsible for the location of the test.

The west side of the Corsicana-Powell field, most productive of the fault zone areas, also has a Trinity test nearing a decisive level. This project is being drilled jointly by Wheelock and Collins, Humble Oil & Refining Company, and Magnolia Petroleum Company on the Cerf tract and proved dry on drill stem test in upper Glen Rose at 5321-5337 feet, having previously cemented a protection string of nine-inch pipe at 4343 feet. It has an elevation of 435 feet and was making new hole late last week.

Crescent Pool Test Makes One Small Flow

Eason Oil Company's Katschor 2-3, NW SW SW Section 34-17-4w, one of 10-acre tests in Crescent field of Logan County, which National Oil Administrator Harold L. Ickes tried to halt from drilling, found Simpson dolomite at 6178 feet for hole full of oil and it made one 15-barrel flow. It has no gas.

Polo Field Extended One Location North

Perry, Okla.—The Polo pool of Noble County was extended one location north when Sinclair Prairie Oil Company's Smith 1, SW SE NE Section 28-22-2w, found Wilcox sand at 4810 to 4812 feet and blew in for 135 barrels an hour.

Commission to Consider Dickinson Spacing Rules

Austin.—A hearing to consider spacing rules for the new Dickinson field in Galveston County has been called by the Texas Railroad Commission for September 10. The hearing is to be held at the Buccaneer Hotel in Galveston. Following the statewide proration hearing on August 22, a hearing was held on this question. Practically all the testimony presented was furnished by Humble Oil & Refining Company, whose engineers declared that spacing in the center of 20-acre units was essential to prevent danger from cratering wells. Owners of small tracts in the area have since filed a petition with the commission, indicating that they believe far smaller units should be fixed. They urge one well to five or ten acres. The hearing has been called as the result of this petition.

Texas Petroleum Council Directors Are to Meet

Austin, Texas.—The Texas Petroleum Council has called a meeting of the board of directors for September 6 at Houston. Alan Peden, secretary of the council, said that while general subjects will be discussed the council will give principal consideration to plans for advancing trial of persons indicted in hot oil deals in East Texas. He said that some 70 had been named in these indictments, and that everything possible was being done to advance trial dates.

Rusk Pool Gets Setback; Showing in Ponta Area

Palestine, Texas.—Another setback for the Rusk pool, Cherokee County, was registered last week when Walter L. Goldston et al's Southern Pine Lumber Company 1, N. Newton Survey, yielded salt water with oil when formation tester was used in Woodbine sand at 5093-5099 feet. It is about 2¼ miles south of T. J. Wood et al's wildcat oil producer on the New Birmingham Development Company 161-acre lease, Levi Jordan Survey. The outpost test checked low on structure on all key formations, and furnished a surprise in showing 900 feet of oil with 650 feet of salt water when drill stem test was made August 30. It is reported that in view of its structural position and the presence of salt water that no attempt will be made to plug back and try and make a producer.

The Ponta area, eastern Cherokee County, commanded attention late last week when South Gulf Oil Corporation's Joe Bailey 1, center of 80-acre lease, L. Rhodes Survey A-724, shut down at 4129 feet after taking a nine-foot core that is reported to have included about two feet of sand having an oil odor. It is about three miles northeast of Ponta, on a structure mapped by Leon English that is being given two tests simultaneously, although H. C. Milhoan & English's O. R. Perkins 1, J. M. Montez Survey, located about one mile to the west, is standing at 2450 feet South Gulf Oil Corporation's wildcat was drilled originally to 4165 feet, or just below a cap rock, and experienced a blowout from shallow gas horizon in coming out with core barrel. The hole was accidentally sidetracked near the 1000-foot level after killing the gas with water, and new hole has been drilled below the latter depth. It has an elevation of 386 feet.

An early verdict on the second test for the Slocum area, southern Anderson County, is expected from Byrd-Frost, Inc., and Stanolind Oil & Gas Company's J. T. Burrow 1, M. Vascue Survey, which logged top of Pecan chalk at 4248 feet, or about 140 feet higher on structure than their Alice Scott 1, Jas. Crawford Survey, located about one mile to the northwest. The latter made some oil with salt water from Woodbine sand at 5455-5501 feet, with an elevation of 401 feet, but was plugged last June after failing to effect a water shut off.

Territory to the south and southeast of Tyler has experienced considerable lease activity for more than a month, with several early tests assured. Prices ranging up to $5.00 per acre have frequently been paid by the various participants. Reputed oil and gas showings reported by old tests in the general area and evidence of deep seated salt dome structures are the basis of their interest in the area. R. W. Fair et al have started drilling operations on Rushing 1, located 1½ miles southeast of the Whitehouse community and on 50.8-acre lease in the Jacob Herrin Survey. It is also about 1000 feet southeast of Ray L. Martin et al's Rushing 1, which was abandoned as a junked hole in Eagleford shale at 4274 feet last December, having logged Austin chalk at 3990-4206 feet, with an elevation of 413 feet.

H. L. Hunt and Sun Oil Company have been active in building up a drilling block, extending south from Tyler to a point opposite Gresham that is understood to call for an early test to the Woodbine. The same buyers have assembled a block about mid-way betwen Tyler and the East Texas field, near Chapel Hill, with

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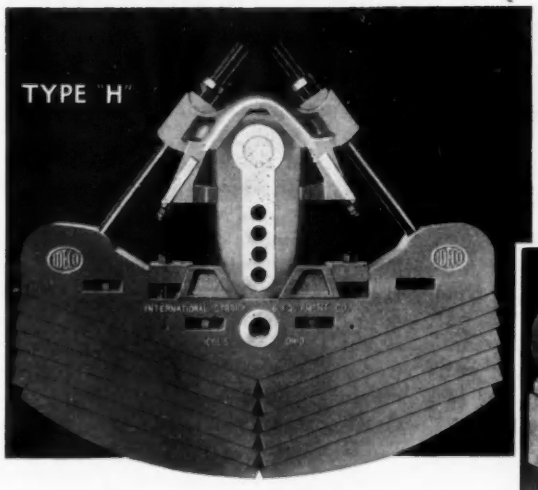

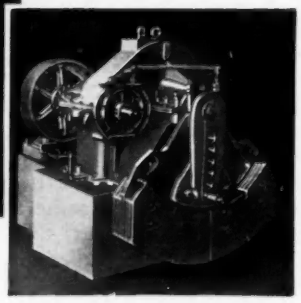

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a tentative location in the southwest corner of the Francisco Ariola Survey. Puckett and associates are credited with having taken a drilling block on the east side of the Whitehouse, where a salt dome condition exists.

The upper portion of the Woodbine belt is to be given a test by Hill & Hill, Inc., Fort Worth concern, on a block of about 4500 acres centering on the corner of Hopkins, Wood and Franklin Counties. Location has been made for a test on the J. W. Jones 220-acre tract, Jasper Williams Survey, Hopkins County, and about 2½ miles northwest of Winnsboro, with plans to start up within 30 days. This project is supported by a surface high plus a sub-surface structure determined through correlation of the Pecan Gap chalk logged by a number of old dry holes in the general area, and a number of companies have bought lease protection at $10 per acre. Humble Oil & Refining Company purchased a lease spread around the Jones test, and also has taken a 5000-acre block lying to the north and west at prices ranging from $5 to $10 per acre.

Indifferent Success Meets Efforts to Check Fields

Austin, Texas.—A check on the production and movements of oil from every Texas oil field which was launched by the Texas Railroad Commission last month has met with only indifferenent success.

Many producers failed to file any reports at all, and in some fields the average received was less than half.

The pipe line companies, while they reported receipts by fields, did not, in all instances, report the amount of oil stored or the amount transported in each field.

The survey, which is under the direction of Judge Olin Culberson, did not bring in all the information desired, and as a result, notice has been issued to both producers and pipe lines in an effort to gather more accurate information on August production.

A letter that was sent to producers pointed out that "It is not the desire of the division to be in the attitude of being 'hard boiled,' but the reports as provided for positively must be filed, and while this division would be very reluctant to report any producer failing to comply with the commission's order, yet if there should be any producer or producers who refuse to file these reports promptly such action will compel this division to request the commission to apply the penalties for such failure. This we do not want to do, so it is strictly up to the producers to comply with this order and give us the cooperation necessary to accomplish this work."

Expect East Texas Soon To Recover from Slump

Tyler, Texas. — Completions in the East Texas field slumped to 56 during the past week in the face of a slight gain in field work lately. There were 71 new wells added the previous week.

Number of drilling rigs in operation has increased from about 120 to 140 thereby giving assurance that completions will shortly return to an average of about 10 daily. Besides the active rigs there are about 95 tests installing derricks and rigs, and approximately 50 locations.

Gulf Production Company and Magnolia Petroleum Company have stepped out lately with a renewed drilling campaign. The former has approximately 30 operations underway, including tests starting up, while Magnolia Petroleum Company has eight of its rigs in service; three tests rigging up; and 10 recent locations. Humble Oil & Refining Company, Atlantic Oil Producing Company and The Texas Company also are busy in bringing up their well density with about 15 operations each.

One dry hole was added during the past week while another appeared certain. A. N. Landers et al's O. N. Jeter 1, located on the east flank of the Kilgore townsite area failed to obtain sufficient sand to make a producer, and was plugged at 3570 feet. In the south portion of the field, Stanolind Oil & Gas Company and Pure Oil Company's W. H. Siler 43 drilled into salt water at 3724 feet after failing to encounter commercial production in sand topped at 3590 feet. It may be plugged back for further testing. Siler 42 also proved to be a failure last December after drilling to 3648 feet, or 3319 feet below sea level. Humble Oil & Refining Company's J. W. Turner 1-B, located on the west line of the T. Anderson Survey, and east edge of the Joiner area, swabbed only 7½ barrels of oil per hour from broken sand at 3624-3688 feet.

Detailed list of completions in the East Texas field during the past week follows:

Company, Lease, Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Arkansas Fuel Oil Co., G. Ferguson 7 (74-ac)	7600	3675
Atlantic O.P. Co., H. L. Griffin 6 (80-ac)	6200	3701
Ida L. Kinney 25 (336-ac)	4000	3684
Ida L. Kinney 26 (336-ac)	2500	3653
E. L. Pinkston 2-B (24-ac)	8000	3708
Capital Oils, Inc., Frederick 4	1000	3618
Cumberland Presbyterian Church & R. Haddaway, Church 1 (82/100-ac)	5000	3820
Dearing & Son-Royal Pet. Corp., Bradford 1 (4-ac)	1000	3610
R. W. Fair-C. L. Thompson, W. E. Wylie 4-A (25.89-ac)	1200	3665
Goodnight-Donald Oil Corp., W. H. Worrell 1	500	3629
Gulf Prod. Co., T. B. Cashen 9 (127.71-ac)	8300	3748
Humble, Jones Fuller 11 (115.66-ac)	9600	3674
P. R. DeGuerin 14 (121.8-ac)	9000	3723
Jessie Thompson 7 (82.54-ac)	12,000	3679
J. W. Turner 1-B	250	3688
Alex McCutchin et al, T. O. Wright 2, Tr. No. 7	3000	3709
Mid-Kansas O&G Co., M. A. Price 16 (205-ac)	7000	3606
Octo Oil Corp., H. C. Tipps 2 (22-ac)	250	3591
Perry-Allen et al, T. O. Wright 3	6500	3710
Sun Oil Co., O. W. Knight 20 (264-ac)	7000	3633
The Texas Co., Allen Kersh 13 (211-ac)	5400	3626
Tide Water Oil Co., J. M. Shaw 12 (80-ac)	5500	3742
KILGORE AREA—		
Arkansas Fuel Oil Co., C. Brown 10 (100-ac)	8800	3603
Dyck Oil Co. & Finley, Green Blackman 4 (50-ac)	7200	3660
Gulf Prod. Co., M. Charles 10 (88.59-ac)	6500	3641
C. E. Christian 15-A (164-ac)	6800	3663
C. Strong 12 (137.3-ac)	6000	3700
Humble, S. S. Laird 59-B (568.53-ac)	6600	3627
T. D. Humphrey et al, Angus Spear 1-A	8000	3576
Invincible Oil Co., W. Williams 4 (14-ac)	12,000	3555
A. N. Landers et al, O. N. Jeter 1	*	3570
John E. Mabee Cons'l Corp., M. T. Cole 20 (120-ac)	11,500	3559
Magnolia, R. B. Walls 6 (26-ac)	9000	3705
F. W. Martin et al, Trip Elder 2-B (3½-ac)	500	3578
Nemo Oil Co., Randolph-State 1	8800	3536
Shell Pet. Corp., J. A. Knowles 7 (65-ac)	9600	3644
Dale Sneed et al, A. A. King 1	9000	3670
H. W. Snowden et al, L. Alexander 1 (4-ac)	2000	3521
The Texas Co., M. T. Cole 35 (145-ac)	7300	3552
Eddie Thompson et al, E. Hilburn-King 6 (35-ac)	7000	3628
LONGVIEW AREA—		
Arkansas Fuel Oil Co., W. T. Burnside 22 (209-ac)	10,000	3506
J. C. & R. S. McKinley 9-A (96-ac)	8700	3596
Black-Knight Oil Co., J. G. McGrede 3 (18-ac)	11,000	3653
Continental Oil Co., B. C. Todd 7 (40-ac)	10,500	3654
Danciger O&R Co., G. S. Mattox 5 (39-ac)	8800	3612
Eastern Texas Pet. Co., T. J. Dunbar 17 (169-ac)	2000	3643
D. A. Fleet 4 (111-ac)	7000	3578
W. P. Lincoln & Barkley, J. B. Webb 5 (31.76-ac)	3600	3718
C. H. Lyons-J. K. Wadley, R. R. Cocke 3 (65-ac)	5500	3623
Magnolia Pet. Co., Carrie Brooks 6 (50-ac)	8000	3655
Hobart Keys 7 (59-ac)	11,000	3551
B. F. Phillips et al, Willie Starr 3 (30-ac)	4500	3657
Shell Pet. Corp., W. L. Brawley 4 (24-ac)	6000	3738
Sun Oil Co., J. J. Reppond 5 (58-ac)	2500	3654
Yount-Lee Oil Co., J. C. McKinley 6-A (63-ac)	8000	3573
J. F. Stuckey-Thrasher 11 (80-ac)	8200	3533
VAN ZANDT COUNTY (Van Field)—		
Peden-Olson Oil Co., W. S. Brannon 3	3	1227
Pure Oil Co., Frank Blackstock 3 (40-ac)	8500	2924
RUSK COUNTY—		
Head Water Oil Co., F. L. Gary 1	*	3197
Geo. F. Hudson et al, Jeff H. Phillips 3	†	3673

*Failures; †Junked; ¶Million cu. ft. gas.

Winkler County Wildcat Is Flowing by Heads

San Angelo, Texas.—Wildcat oil strike for southern Winkler County was in prospect last week when Skelly Oil Company's S. M. Halley 1, SWc NE Section 25, Block B-11, P. S. L. Survey, flowed pipe line oil by heads from sandy-lime formation at 3105-3112 feet. Oil showings at 3017-21 feet and 3025-31 feet previously bailed seven barrels daily. It is on the south end of a large block held by the company, and is about equal distance from the Hendrick and Gulf-O'Brien fields.

Presence of oil production on the Halley ranch was forecasted in March, 1932, when Sid Richardson et al's Halley 1, SEc SW SE Section 25, Block B-12, and about one mile southwest of the above promising wildcat, yielded small volume of oil and gas in broken pay between 2870 and 3056 feet. It entered the salt water horizon at 3047 feet, or 335 feet below sea level. The new well has a sub sea depth of 387 feet and has not encountered water, according to reports, indicating that the water table is not constant in the area.

Deep Producer at Big Lake

Another deep producer for the Big Lake field was placed on production last week when Big Lake Oil Company's University 15-C, SWc NW NE Section 12, Block 2, made a peak flow of 724 barrels of 62.7 gravity oil and 8,800,000 cubic feet of gas daily from Ordovician lime at 8540-8567 feet. It was deepened to 8589 feet, resulting in the gravity of the oil dropping to 50.5 degrees and the flow to 514 barrels daily, with gas flow estimated at 7,100,000 cubic feet daily. Further drop in the gravity of the crude is desired, but it failed to decrease in drilling to 8609 feet, where the well gauged 215 barrels daily while drilling under pressure. Gulf Production Company's J. T. McElroy 103, Upton County deep test, was drilling below 10,735 feet last week in lime and chert, with progress limited to several feet daily.

A third wildcat for southern Glasscock County was authorized last week when F. A. Bates et al made location to drill Fannie B. Boyd 1, located 990 feet from the north and east lines of Section 9, Block 36, T&P Ry. Survey, T-5-S. It is about 12 miles west by south of Moore brothers et al's Hubbard-Gulf 1, SEc Section 16, Block 34, which is drilling in lime below 2625 feet. Stanolind Oil & Gas Company is reported to have paid $35,000 cash for undivided one-half interest in the latter test and surrounding block of about 14,500 acres. Steve Currie and Wahlenmaier Petroleum Corporation et al's Joe Calvery 1, NEc Section 24, Block 36, T-4-S, is preparing to set pipe at 3420 feet, having topped the lime at 3335 feet, or 636 feet below sea level.

Cordova-Union Oil Corporation's Brevard 1, located in the southwest part of the McMillan pool, Runnels County, broadened the field about one quarter mile to the northeast flowing by heads from sand at 2514-2521 feet, indicating a 150-barrel producer.

The western portion of the McCamey field yielded its first producer of any size in some months when The Texas Company's Richard King 25, Section 85, Block "X," Crane County, earned a potential rating of 302 barrels daily on pump after shot in lime at 2332-60 feet, with a total depth of 2400 feet. Continental Oil Company's M. M. Dawson 1, located in the northeast part of Section 80, Block "X," has rigged up to try for a minor southwest extension.

Granite Ridge South Flank Production Is Extended

Pampa, Texas.—Enlarged field work in the Texas Panhandle accounted for an unusually large quota of completions during the past week. There were six wells in Wheeler and Gray Counties rated above 1000 barrels initial, while Carson County appears to have a big well in the making on the south side of the granite ridge that also affords an extension. The district was credited with 31 completions during the past week. An aggregate of 12,915 barrels of oil production was yielded by 26 wells, while three dry gassers showed a combined potential of 104,000,000 cubic feet daily. There was one dry hole and a junked hole completed during this period.

Empire Gas & Fuel Company's C. S. Seiber 1, extended production on the south flank of the granite ridge in Carson County about one half mile to the north is gauging 80 barrels oil per hour for four hours from granite wash formation at 3220-3239 feet. It is located 330 feet north and 1320 feet west of the SEc Section 10, Block 7, I&GN Ry. Survey, and north of the same company's J. W. Fields 1, which opened the pool in February, 1930, flowing 100 barrels oil per hour from pay at 3200-3232 feet. The company controls the bulk of the close in acreage, and development was retarded by the absence of a pipe line outlet, although other concerns made unsuccessful efforts to share in the production but ended up with dry gassers, or dry holes.

Prolific wells in western Wheeler County predominated again last week, and as usual the bulk of the completions were made by Oklahoma concerns who were attracted to the area last spring when a few big wells dotted the horizon. Champlin Refining Company, Enid, Okla., added two wells on G. W. Williams 90-acre lease, although one drilled into salt water. Williams 2 was credited with a potential of 1810 barrels oil and 16,000,000 cubic feet of gas daily from pay at 2450-2530 feet, while Williams 5 made 1430 barrels natural after plugging back from 2540 to 2520 feet because of salt water in the last five feet. Smith Bros. Refining Company, Inc., and Hanlon-Buchanan, Inc.'s R. L. Harlan 2 gauged 1030 barrels natural from pay at 2445-2486 feet. The latter have added to their lease protection through the purchase of lease on the west 80-acres of the SE¼ Section 49, Block 24, H&GN Ry. survey, paying $1,000 per acre out of one fourth of the production. Ohio Fuel Supply Company, Oklahoma City, completed D'Spain 2, SEc SE¼ Section 52, rated at 1760 barrels daily on five-day potential test from regular pay at 2375-2526 feet.

Gray County

Gray County offered a good run of completions, including a big producer for the Lefors and Finley-Brown areas. In the latter Danciger Oil & Refining Company's Beck-Powell 11 gauged 910 barrels daily with the aid of gas-lift from broken sandy-lime at 2841-2913 feet. Mordyan Petroleum Company's M. B. Davis 3, NEc S½NW¼ Section 8, Block 1, ACH&B Survey, furnished the best well in the Lefors area in many months in earning a potential rating of 1350 barrels from granite wash formation at 2670-2775 feet.

Approaching a new depth record for

the Texas Panhandle, Phillips Petroleum Company et al's J. C. Wilson 2, C SE Section 157, Block 3-T, T&NO Ry. Survey, northeastern Moore County, was drilling below 5900 feet last week. This scheduled deep test, possibly 8500 feet, or more, logged granite wash formation at 5489-5577 feet, but proved to be dry when formation tester was run. The Randall County wildcat of Oxnard & English et al on the H. T. Oxnard ranch, Section 85, Block 2, AB&M Survey, is lowering 6⅝-inch pipe, with the hole bottomed at 5375 feet. It is scheduled to go to 6500 feet, using Diesel engine driven standard rig.

Completions in the Texas Panhandle during the past week follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Skelly Oil Co., H. Schafer 30-W...	25	3120
H. Schafer 31-W	20	3137
H. Schaefer 32-W	25	3117
The Texas Co., E. Cooper 2	300	3116
GRAY COUNTY—		
Danciger O&R Co., Beck-Powell 11	910	2913
Dixon Creek O&R Co., H. Horner 6	395	3257
Al Johnson et al, H. Thut 1	¶11	2940
Kewanee O&G Co., R. E. Smith 6..	295	3254
Mordyan Pet. Co., M. B. Davis 3..1350		2775
Sinclair Prairie, Combs-Worley-Moody 6 1005		2930
Skelly Oil Co., J. F. Vicars 16....	190	3287
Stanolind O&G Co., T. B. Cobb 2-B	275	3320
Sun Oil Co., Patton-Purviance 6...	160	3038
Robt. Watchorn et al, Saunders 1..	185	2900
Wilcox O&G Co., Combs-Worley 30	60	2903
HUTCHINSON COUNTY—		
Badger Oil Co., Tom Lewis 6.....	500	2978
Cy Reiger-U-Tex Oil Co., R. C. Ware 1-B	†	2040
Harry Stekoll et al, Whittenburg-Canadian 2-A	150	3015
The Texas Co., C. R. Garner 4-A ..	115	3020
WHEELER COUNTY—		
Bell O&G Co., D'Spain 4	475	2480
J. G. Burch et al, S. Johnson 1 ..	¶22	2570
Champlin Ref. Co., G. W. Williams 2 .....¶16-1810		2530
G. W. Williams 3 1430		2540
O. C. Meyers-Lomyer Oil Corp., J. B. A. Harbey 1	*	2285
Mid-Continent Pet. Corp., J. S. Carwile 8	415	2482
Ohio Fuel Supply Co., D'Spain 2...1760		2526
Rawlings et al, A. Plummer 1	70	2512
Shell Pet. Corp., D'Spain 1	315	2502
D'Spain 2	650	2518
Shinnery Oil Corp., Binkley-Cain 1.	¶55	2628
Smith Bros. Ref. Co.-Hanlon-Buchanan, Inc., Harlan 2 1030		2486

*Failures; †Junked; ¶Million cu. ft. gas.

Third Completion Made On Navarro Structure

Wichita Falls, Texas.—Completion of The Texas Company's Lee K. Johnson 5, located on the Navarro structure in western Foard County, rated at 31 barrels of 47 gravity oil per hour through open tubing from Canyon lime horizon at the 3600-foot level, makes the third producer for the area. The well is on a line between two previous completions that have a larger potential rating than any other wells in North Texas. Johnson 5 is making about 7,000,000 cubic feet of gas daily, having cased off heavy gas production in the upper section of the lime in landing 6⅝-inch pipe at 3541 feet. Since the new completion failed to equal the production performance of the other two wells, which gauged above 3000 barrels initial, plans areto deepen at a later date.

North Texas List Includes 21 Producers

Wichita Falls, Texas.—North Texas accounted for 35 completions during the past week, including 21 oil producers with a combined initial rating of 1470 barrels, and one gasser rated at 3,000,000 cubic feet daily. During this same period the district reported 13 failures scattered among six counties.

Completions in North Texas during the past week follow:

Company, Lease, Location	Int. Prod. Bbls.	Depth
ARCHER COUNTY—		
Rhea Anderson et al, Jackson 1..	*	1399
Bridwell Oil Co., Logan 2-C, Blk 26	12	1177
Logan 3-C, Blk 26	15	1152
Fain-McGaha Oil Corp., Ferguson 20-C, Sec 2	*	669
F. C. Green 17	100	1176
F. C. Green 18	300	1178
F. C. Green 19	250	1188
Fresno Oil Co., H. O. Prideaux 34	*	794
Justice Oil Co., Wm. Justice 3, Blk 6	40	1076
Texho Oil Co., J. L. Anderson 8, Blk 18	10	1427
Underwood & Campbell, Campbell 3, Sec 1383	*	1055
White & Duncan, R. Rater 1	*	800
CLAY COUNTY—		
The Texas Co., W. F. George 3, Lot No. 4	*	1470
COOKE COUNTY—		
C. W. Heddington et al, C. M. Martin 1	5	1053
F. T. Johnson et al, True 1 .....¶1-5		1083
Russell & Clopton, J. A. Yosten 1..	*	1600
Ruwaldt & Couch, Inc., True 1-A	¶3	1089
JACK COUNTY—		
Robt. T. Nail et al, W. A. Peterson 2, Blk 2	5	358
O. L. Ray et al, Hedrick-Conley 1, Blk 2	*	710
G. A. Teague et al, Stockyards Nat'l Bank 2	*	378
MONTAGUE COUNTY—		
Abe & Sam Raizen et al, A. B. Hinton 3	50	789
WICHITA COUNTY—		
Lyons & Bivins, D. G. Parker 1, Blk 11	*	210
Porter Oakes et al, Geo. L. Dobie 2	3	476
Petroleum Prod. Co., Allen-Kemp 40, Sec 28	55	1495
Ed Schlaffke et al, W. Honaker 1, Sec. 3	*	1067
WILBARGER COUNTY—		
Hegralle Oil Co., Waggoner 10, Sec 35	310	1874
Phillips, Waggoner 2-N, Sec 43 ...	100	4212
Waggoner Ref. Co., Waggoner 1-W, Sec 39	100	1221
YOUNG COUNTY—		
Baker & Camp, G. N. Smith 3, Sec 1365	15	705
Calvin Bros., R. J. Calvin 1	5	580
O. Groves et al, Gregg 1	*	525
B. N. Honea et al, Fee 2, Sec 1492	10	918
McLester Oil Co., W. A. Ribble 1..	*	3095
Texas, Finch 9-A, Sec 40	65	679
J. L. Wright et al, Leslie 1, Sec 1400	15	900

*Failures; †Junked; ¶Million cu. ft. gas.

West Texas Extension Trys Net Six Failures

San Angelo, Texas.—Sixteen completions in West Texas during the past week included six failures and 10 producers with an aggregate potential of 2865 barrels daily. All of the failures represented unsuccessful attempts to broaden the productive limits of existing fields, and no wildcats were included.

Detailed list of completions in West Texas during the past week follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
ECTOR COUNTY—		
Continental Oil Co., O. B. Holt 2..	425	4295
Humble, Eli Jones 3	345	3681
H. H. Pegues 1	*	4702
Landreth Prod. Corp., TP Land Trust 2-A	70	4275
TP Land Trust 1-C	510	4270
FISHER COUNTY—		
Gen'l Crude Oil Co., Wm. Flannigan 4	500	3135
GLASSCOCK COUNTY—		
Schermerhorn Oil Co., J. J. Phillips 4 1415		2456
Shell Pet. Corp., J. J. Phillips 4...	75	2345
Tribal Oil Co., M. M. Edwards 5-B..	*	2452
JONES COUNTY—		
Texas Inland O&G Co., Henry Sales 1	*	2045
PECOS COUNTY—		
Aero Gas Refining Co., Inc., A. A. Gray 1	*	1370
J. G. Montague et al, J. S. Masterson 1	*	1580
UPTON COUNTY—		
TP Coal & Oil Co., A. A. Reese 3..	240	2600
TP & Simms Oil Co., J. F. Lane 4-D	175	2370
WARD COUNTY—		
Westex Oil Corp., C. Monroe 1....	*	2658
WINKLER COUNTY (Scarborough Field)—		
Sid Richardson et al, Scarborough 1-G	110	2955

*Failures; †Junked; ¶Million cu. ft. gas.

Five Small Producers In West Central Texas

Ranger, Texas.—An aggregate of 540 barrels of oil and 3,000,000 cubic feet of gas production was added by the West Central Texas district through the completion of four shallow oil producers in Shackelford County and a dry gasser in Stephens County. There were also five dry holes completed during the same period.

Completions in West Central Texas during the past week follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
CALLAHAN COUNTY—		
W. J. Armstrong et al, I. N. Jackson 3	*	887
W. B. Moon et al, M. Williams 2	*	716
EASTLAND COUNTY—		
Lone Star Gas Co., Phillips 1.....	¶3	3505
PALO PINTO COUNTY—		
Sinclair Prairie - Amerada, Allen-Ritchie 3	*	2383
SHACKELFORD COUNTY—		
Charter Oil Co., Morris-Buie 3.....	60	1600
Gilman & McMurray-West Texas Roy. Co., Morris-Buie 1, Sec. 192	50	1610
Rhodes & Higher, Davis Bros. 10..	*	1508
Reliance Oil & Roy. Co., J. B. Mathews 16	30	804
Roeser-Pendleton, Inc.-Humble, Morris-Buie 15	400	1589
W. F. Snebold et al, T. W. Lee 2	*	916

*Failures; †Junked; ¶Million cu. ft. gas.

Calhoun County Wildcat Lands Casing String

San Antonio, Texas.—Continental Oil Company's American National Realty Company 1, located between Seadrift and Port O'Connor in Calhoun County, has landed 9⅝-inch casing at 5878 feet, and is cementing, preparatory to drilling ahead to contract depth of 8000 feet.

This well had a mean fishing job at 5870 feet, in which it was necessary to take nearly a month to recover the pipe and other obstructions from the hole. Heaving shale caused the bit to become stuck and the drill pipe was cut away section by section and finally the entire obstruction removed.

This project is being drilled under contract to Trinity Drillers, Inc.

Duval Wildcat to Test Showings

San Antonio, Texas.—Sun Oil Company's Moreno 1, wildcat prospect in the extreme eastern portion of Duval County, is preparing to make a drill stem test at 6784 feet. This well is bottomed in sand and last recovery of coring showed oil stained sand.

It is about nine miles south and a little west of San Diego on the Guajillo prospect, which is considered a possible salt dome as a result of geophysical work done in 1930.

The well has an elevation of 386 feet. It topped the Jackson at 4940 feet, the Cockfield at 6329 feet, and is now bottomed at about the same position in the geological column as the production in the Cole field in the western portion of the county.

The well has had a series of sand sections from the top of the Cockfield to the total depth and it is possible that several drill stem tests will be made if the first fails, in as much as plans are to test several hundred feet of formation with a single test. The last core taken showed four inches of sand with oil stain, but it is possible that the entire section will offer sufficient possibilities to make a production test or an attempt to complete the hole.

Frio County

San Antonio, Texas.—Amerada Petroleum Corporation's Halff and Oppenheimer 2, deep test in Frio County, about five miles southwest of Pearsall, is drilling at 7463 feet in Glenrose and showing nothing of importance.

Active Drilling Campaign Starts in Cole Field

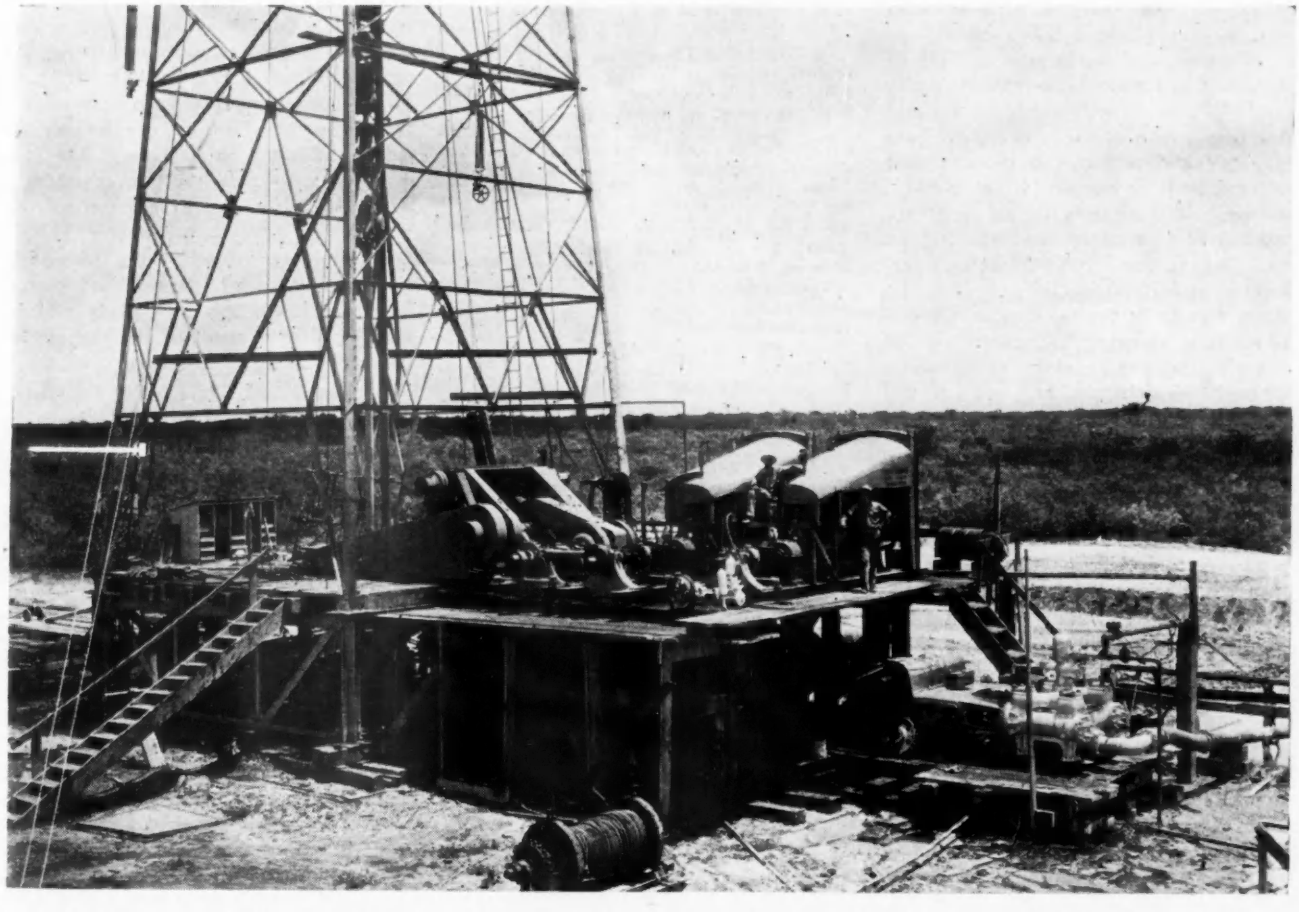
San Antonio, Texas.—Several more deals in the Cole field of Webb and Duval Counties, where Yegua sand recently was proved productive, and outpost wells are expected to bring about a rather rapid drilling campaign within the near future. About 10 active tests or locations for immediate tests are reported on a trend about two miles long. The proven area already is one mile long with three producing wells.

American Liberty Oil Company has purchased the oil rights of United Production Company on 266 acres in the field, including the company's two purducers to the deep sand. The report is that the company paid the cost of the two wells or about $30,000, and is to pay a ¼ overriding royalty. The company will drill more wells in the pool.

Sun Oil Company has plans for the drilling of a well on properties just southeast of the Bruni townsite.

Magnolia Petroleum Company (United) has made location at the corner of Blocks 332-333-348-349, Hale subdivision of the Arispe Grant.

Herman Brown and associates are to drill on a small block just acquired in



Sun Oil Company and Magnolia Petroleum Company's Texas Moreno 1, Duval County, was spudded May 2, and last week was coring at 6791 feet. It is being drilled by George H. Echols, drilling contractor with a gasoline powered rig.

the area. The blocks purchased are 1, 2, 3, 6, 7 and 8, Survey 5, Arispe Grant. The location will be on Block 3.

Cole Petroleum Company is finishing up Benavides 85, one mile north of the United Production Company producers. The well drilled to 3422 feet, plugged back to 3215 feet, cutting off water, and will be on production within the next several days. Location has been made as an offset for Benavides 86.

Kalmor Oil Company's Bruni 1-B is down 2500 feet, and drilling.

O. W. Killam has started Bruni 25, offset to Cole's well and has a derrick up for Bruni 26, Section 9, ½ mile southwest of United Production Company producers.

Driscoll Field Has New Producing Sand

San Antonio, Texas.—Another producing horizon was being proved productive in the Dricoll field of Duval County during the latter part of the week. It was the upper Government Wells sand at 3270-80 feet, where the Continental Oil Company's R. Driscoll Estate 1 was being completed as a gasser.

The well originally drilled to 4695 feet. It was plugged back, casing set at 3578 feet and perforated at 3449-59 feet, in the Lower Government Wells sand. The well was swabbed in and started flowing at the rate of 240 barrels of fluid a day, 70 percent salt water. The flow was on ¼-inch chokes, showing 1000 pounds casing pressure and 850 pounds tubing pressure. It then was plugged back to 3292 feet and perforated at 3270-80 feet in a sand in the upper section of the Government Wells zone. It is showing a pressure of 750 pounds on the casing and tubing through ⅛-inch chokes, and is still cleaning itself.

Caeser Field May Get Oil Producer

San Antonio, Texas.—Prospects are rather bright for an oil producer in the Caeser field, Bee County, opened a few months ago by Luling Oil & Gas Company with Ruhman 1. Thus far it has been a gas proposition with each well showing a small amount of oil with the large gas flow.

Luling Oil & Gas Company's Ruhman 3, located about a half mile southeast of several gassers, cored 20 feet of sand at 3037-57 feet, the lower four feet showing heavy oil saturation with the upper portion being almost entirely gas. Casing has been set. It has been the contention that the volume of oil will increase and gas pressure decrease if drilled lower on the structure and this well will more or less prove whether or not this is an oil structure or just a gas producer. The well is 330 feet from the west line and 625 feet from the north line of Block 40, Butler subdivision.

Completions in South Texas Show Decrease

San Antonio, Texas.—A completion slump was recorded during the past week in South Texas. A few scattered producers in proven districts and several wildcat abandonments were listed. They are as follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
BASTROP COUNTY—		
Marts & Beavans, Lancaster 1, 250 ft swl and 150 ft nwl of tract, Thomas Garretson Sur. No. 19...	*	2167
BEE COUNTY—		
Dirks Brothers, Mrs. William Rapp 2, nw ne se Sec. 5, Uranga Grant	*	3935
Walton & Heard, Mrs. William Rapp 2, sw se Sec. 5, Uranga Grant ..	540	3926
Weekly Oil Corp., Laura E. Weiss 1, B&B Survey	*	4254
BEXAR COUNTY—		
James G. Boles, T. Dillon 1, 750 ft w of road and 4750 ft sl of sur, 490-acre tract, M. de Leon sur...	*	1404
A. J. Trawalter et al, A. J. Trawalter 4, S. Jett survey	2	606
DUVAL COUNTY—		
Bridwell Oil Co., C. W. Hahl 5, Blk. 28, Sec. 250	75	2381
Frank Gravis et al, Hubbard 1, 990 ft sl and 330 ft wl, Sec. 83	*	2751
KOT Oil Co., Lundell 4, Sec. 48...	*	2403
Magnolia Petroleum Co., Duval County Ranch 31, Sec. 208	168	2330
Sun Oil Co., L. Weiderkehr 69, Sec. 359	360	2260
GOLIAD COUNTY—		
Diamond Half Oil Co., Runge Nat'l Bank 1, G. B. Meyers sur	*	3745
JIM WELLS COUNTY—		
Magnolia Petroleum Co., A. A. Seeligson 4, Sec. 216 (dd)	20	3267
REFUGIO COUNTY—		
Floboots Oil Corp., J. M. O'Brien 3-E, Blk. 23, Winfield sur	125	4400
J. M. O'Brien 4-E Blk 22, Winfield sur	150	4393
SAN PATRICIO COUNTY—		
Heep Oil Corp., R. H. Welder 3, 9920 ft sl and 3000 ft el of 7650-acre tract, A. V. Loupy sur	*	6500
STARR COUNTY—		
Circle W. Oil Co., Block Brothers, 622 ft el and 350 ft nl of Blk 13, 4500-acre subdivision	*	5753
Henshaw Brothers, El Puerto Ranch (Gutierrez) 1, 330 ft s and el of Share 1, Sec. 85, Buell sub, Survey 85	*	1010
TRAVIS COUNTY—		
G. L. Rowsey, Sandahl 1, 1550 ft swl and 1380 ft sel of Thos. Smith Sur. No. 24	*	926
WEBB COUNTY—		
Gholston Drilling Co. & L. N. Shaw, Yeager 1, 330 ft sl and wl nw¼ Sec. 364	*	1500
WILLIAMSON COUNTY—		
G. L. Rowsey, Tr., Pumphrey 1, 2000 ft nwl and 450 ft swl West sur	*	1490

*Failures; †Junked; ¶Million cu. ft. gas.

West Tuleta Field Receives First Failure

San Antonio, Texas.—The first failure in the immediate West Tuleta field of Bee County was registered last week when Dirks Brothers' Mrs. William Rapp 2 tested salt water in the Pettus sand at 3924-35 feet. The well is one location north of Rapp 1, which is making 150 barrels of oil per day via gas jet. The new test is said to have cored the sand about 20 feet lower than the producer only 660 feet away. The location is NW NE SE Section 5 and is the most northerly and the most northeasterly test in the field.

Walton & Heard's Mrs. William Rapp 2, SW SW SE Section 5, made 22½ barrels and hour through 7/32-inch choke from sand at 3916-26 feet. Elevation is 299 feet. This well is slightly more than a half mile east and a little north of the discovery well. The producer shows a tubing pressure of 1200 pounds and a casing pressure of 1450 pounds.

Edwin M. Jones' D. E. Robinson 1, Section 5, a due north offset to the discovery well, made a big gasser spraying oil when brought in, but is now being recompleted. It has sand at 3960-90 feet, and sandy shale to total depth of 3998 feet. It set casing at 3970 feet to cut off the upper gas, but apparently the cement did not hold. A short string of 5 3/16-inch casing has been run several feet below the bottom of the regular string and has been cemented. The well is expected to make the largest producer in the field if the upper gas can be controlled.

As the week closed, there were five rigs running, with 13 locations announced. Three of these locations likely will be abandoned as a result of the showing of the Dirks Brothers salt water well.

Buchanan and Blanco Oil Company's Perez 1, southwest of production considerable more than one half mile, is rigged up and ready to spud.

First Failure on East Side of North Pettus

San Antonio, Texas.—North Pettus drilling activity has settled down to a few routine drilling operations with four companies sharing five active rigs in the proven area.

United Production Company is near the sand on Ray 46, Magnolia Petroleum Company is drilling at a shallow depth on Scarborough 4 and is coring for the sand on Guy Porter 8, while Sun Oil Company is on the sand with Scarborough 2 and Houston Oil Company is commencing Niehaus 5-B.

South of the field, Hindeman, Nich-

ols, et al are rigging up Weldon and Lackey 1.

A failure, the first on the last side of the field, was recorded by Diamond Half Oil Company in Runge National Bank 1. The well originally drilled to 3745 feet, in sand, showed nothing interesting, plugged back, sidetracked and re-drilled the sand, stopping at 3744 feet.

Texas Permits Show Large Increase

Austin, Texas.—Texas oil operators were granted permits to drill 299 new wells through orders issued by the Texas Railroad Commission during the past week.

This was nearly double the number that had been issued during the two weeks preceding. The increase was due to the large number of special permits issued in the East Texas field, which totaled 161.

The Yount Lee Oil Company alone obtained permits for 27 wells in Gregg County. There were 99 permits issued in Gregg County, 47 in Rusk, eight in Upshur and seven in Smith County.

The North Texas district also registered an increase in the number of permits filed with a total of 42, of which 20 were in Archer County.

In Southwest Texas there were 29 wells allowed, with 14 in Duval County. The Gulf Coast area reported 22 in widely scattered counties.

There were 18 permits granted for wells in West Texas, and 12 were obtained by Panhandle operators.

Many permits for wells in East Texas still await commission signatures and will probably be passed on during this week.

Hidalgo County

San Antonio, Texas.—Davis & Harrison are still trying to complete Mrs. Lulu George 1, Tract 13, Porcion 41, just southwest of Sam Fordyce in Hidalgo County, at 4109-36 feet. It had the swab stuck in the hole several days, but when this was removed, the well was shut in and it built up 400 pounds pressure in 12 hours. Being opened, it bailed a little high gravity oil and water. Gas pressure is not very great, but it possibly will kick off after being swabbed a little more.

About a mile and a half west of this well, Woods et al's John Lawrence 1, Tract 274, Porcion 39, picked up a sand at 2738-53 feet, showing saturation, but a drill stem test failed, recovery being only mud, and casing may be set for a production test.

Vanderbilt Pool

San Antonio, Texas.—Phillips Petroleum Company continues to have trouble in completing a commercial producer in the Vanderbilt field of Jackson County, which it recently took over from Encino Oil & Gas Company of San Antonio. Drummind 1, plugged back from 6012 feet to 5200 feet, but went back into the old hole at 5675 feet and again plugged to 5200 feet for another sidetracking job. State Realty & Investment Company 1, in the Vanderbilt townsite, is drilling at 5170 feet.

Simon and Seidel 1 has plugged back to 2690 feet to test sand at 2650 feet to total plug back depth. It drilled to 6012 feet, and plugged back several times in an effort to complete in oil sands between 5000 and 6000 feet, but without success.

Abajo Grant

San Antonio, Texas.—Stanolind Oil & Gas Company's Stratton 2, Section 13, Abajo Grant, located one mile northeast of No. 1, cored a sand at 6303-19 feet, and made a drill stem test

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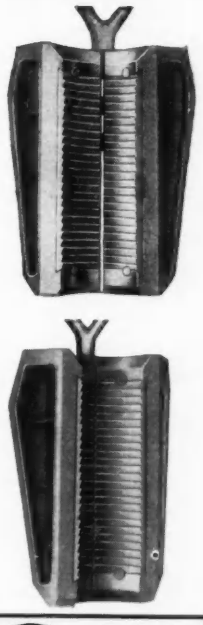

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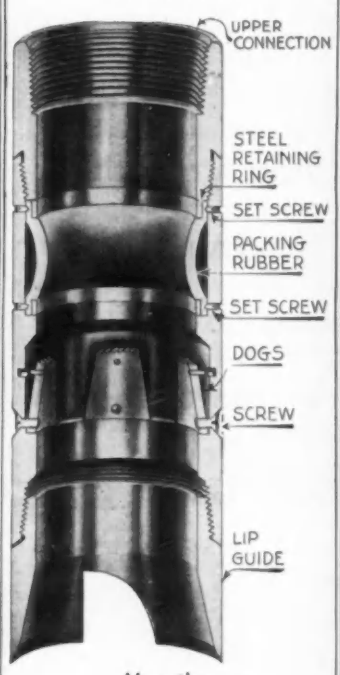

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from 6292-6319 feet, showing for a small gasser spraying distillate, and is now coring at 6401 feet. The test, lasting ten minutes, developed 250 pounds pressure on ¼-inch choke on bottom and 5/16-inch choke on top. When the tool was removed, there was 10 feet of distillate and 500 feet of water in the pipe. The volume on the gas was estimated at 10,000,000 cubic feet per day.

Stanolind drilled Stratton 1 to 5003 feet, and completed it as a small gasser, showing a little distillate several years ago, the second well showed salt water and gas at this level.

Colorado County Test Shut Down for Orders

Houston.—Coyle Concord's Nelson 1, in the Garwood area of Colorado County, was shut down at the close of the week waiting on orders. This well was worked over and drilled deeper. The test was completed originally at 4052 feet when it made an estimated 80,000,000 cubic feet of gas daily with a pressure of 1500 pounds. Top of the sand was found around 4050 feet with an elevation of 163 feet. The well later was drilled to 6194 feet where it topped the Saline Bayou. A sand was topped at 6167 feet and after the operators ran an electrical logging device the well showed at 4100 feet a gas sand and at 4200 an oil sand. One of the major oil companies financed the survey of the hole. The best oil sand of the three was found from 4375 to 4410 feet. Top of the Operculina was encountered around 5945 feet, Cockfield at 5964 feet. Shell Petroleum Corporation has taken a two weeks option on the well do to geophysical work.

East of Rock Island, Quintana Oil Company's Olmstead 1, M. Batson Survey, was drilling in the Cockfield at 5035 feet after topping the Hockleyensis at 3990 feet and the Dibollensis at 4645 feet with an elevation of 245 feet. Gulf Production Company holds a large number of acres in the area.

Piedras Pinto Pool, Duval County, Back in Limelight

San Antonio, Texas.—The old Piedras Pintas pool, Duval County, came back into the oil limelight August 31 as Tom Graham and Texon Royalty Company's George B. Parr 1 was brought in flowing 25 barrels per hour through one eighth-inch choke and showing a working pressure of 500 pounds. The well opens a new sand and again turns the light to this area as a possible major oil producer despite the completion of a number of dry holes in the general area.

Late Friday the flow was reported to beincreasing.

The well is located 2000 feet from the north line and 2500 feet from the east line of a 479-acre tract in the J. Poitevent Survey 195, and is in the vicinity of Humble Oil & Refining Company's Walsh 4, another discovery well in the field.

The Parr well was drilled into the sand at 3583-3624 feet, set seven-inch casing at 3584 feet, but showed dry when an attempt was made to complete. It was drilled ahead to 3818 feet, plugged back to 3566 feet, and casing perforated at 3462-72 feet, the completion depth. It is reported that an electrical testing device was run after the well reached the total depth indicating the new sand which resulted in the testing at this level.

This field was discovered about seven years before the completion of the famous Drake well in Pensylvania. Only one well provided a small amount of oil. In 1901 the drilling campaign began, flowing wells being developed at a shallow depth. In 1922 Empire Gas & Fuel Company drilled Beecher 1, which showed a sand at around 3600 feet that indicated a big producer which brought about the first real oil excitement in South Texas. It failed to materialize, however.

On December 24, 1925, Humble Oil & Refining Company's Walsh 4 was completed at 3597-3623 feet, about the same level as the lower sand in the Parr well, flowing 50 barrels per hour through four-inch control valve. The well flowed nearly 150,000 barrels before going dead largely due to paraffin. Several dry holes were drilled in the immediate vicinity but only one other well resulted in a producer and that made a limited amount of oil.

The Piedras Pintas salt dome has been looked to as a possible important South Texas oil reserve for years. Hundreds of thousands of dollars have been spent on exploitation but without great success. Now it looks as though the district is again resuming its importance and will be watched closely. The average acreage is well cut up and should the new sand prove productive over a large area a tremendous drilling campaign is in prospect.

Cleveland Field Is Getting Another Producer

Houston.—In the Cleveland field of Liberty County, Gulf Production Company's Kirby C-5, was waiting on cement to set after setting seven-inch casing 5829 feet. The oil sand was topped at 5829 feet, and is equivalent to Conroe producing zone. It is the fourth such producer, the discovery well being in upper Cockfield.

On a drill stem test from 5829 to 5839 feet the well showed 819 feet of oil and 91 feet of mud through a quarter-inch choke on top and a three-eighths-inch choke on bottom in seven minutes along with a 100-pound pressure. From 5818 to 5834 feet, on the first drill stem test the expected fifth producer showed 30 feet of mud and two gallons of oil through a quarter-inch choke on top and three-eighths-inch size on bottom in seven minutes. A five-foot core was taken to 5839 feet, the bottom of the hole. This test is the highest well in the field, running approximately 38 feet higher than Kirby C-4, which is 500 feet north and 944 feet east of this test. It is running 27 feet higher than Kirby C-2 and is higher than C-3, by 138 feet. The elevation of Kirby C-5 is 130 feet. It topped the Cockfield from 5590 to 5595 feet and the Hockleyensis from 4723 to 4633 feet.

Turnbull & Irwin's Lynotte Buffon 1, approximately 12 or 13 miles southeast of the Cleveland area and in the J. Robeson Survey, was building derrick and preparing to spud. The area around this test is still getting a big play in leasing with two recent purchases in the H. H. Johnson Survey. The acreage in that area is selling for a reported price of $10 per acre. This to the south of the test. Nearly all major oil companies hold large spreads in the area and the outcome of this test should be interesting to watch.

On the southwest flank of Esperson Dome a 3672-acre deal has been consummated and it is reported a location will be announced shortly. General Crude Oil Company is now drilling two wells in the field of Liberty County.

To the northeast of the Cleveland field, Magnolia Petroleum Company's Maco Stewart 1, A. Cherry League, was drilling shale at 2160 feet, and to the northeast of this test in the J. Stephenson Survey of Polk County, Kirby Petroleum Company's Kirby Lumber Company 2, was drilling at 5143 feet in shale after topping Warreni at 4156 feet, Massilina Pratti 4450 and the Hockleyensis at 4470 feet and as compared to the other wells drilled in the area it is considered a low well. The same company has another well in the area. It is to the west of the above well and is known as Martha Roberts 1, P. A. Sublett Survey. At the close of the week the operators were building the derrick.

It is reported that an independent operator is now on a deal to drill a well in the Hirems or Thomas Surveys. The deal calls for 400 acres and a cash consideration. The deal is with a major oil company. The independent operator is giving a drilling contractor $5000 to rig up and test the sands found in the old Anderson et al Duek 1, which was abandoned some time ago. It is possible that the well will go deeper than the abandoned depth.

Harris County Wildcat Abandoned

Houston.—Loring Oil & Gas Company's Westmoreland Development Company 1, one and half mile southwest of Bellaire, J. M. Swisher Survey of Harris County, was abandoned at the close of the week at 7664 feet. This wildcat was recently abandoned at 6031 feet but the operators decided to carry it deeper. With an elevation of 84 feet the well topped the Discorbis at 4166 feet, Dibollensis at 4112, Base Miocene 3015, Heterostegina 4268, Frio 4567, Jackson 6732, Vicksburg 6212 and the Hockleyensis at 7119 feet. The well was a normal well as compared to the other test drilled in the area.

Texas Coast Deepest Test Is Fishing

Houston.—Sun Oil Company's Long 1, two and half miles southwest of Nome in the J. Blair Survey of Jefferson County, was fishing for a stuck drill stem at 8594 feet, the operators will back off and wash down to the drill stem and then start fishing. This test at this time is the deepest drilling well on the Texas Gulf Coast. It is reported the well will be deepened to test the Cockfield formation, which will probably take the hole to about 10,000 feet; if so this will be the first well on the Texas Gulf Coast to drill that deep. The deepest test heretofore is Yount Lee Oil Company's Boyt 1, H. & T. C. Survey No. 17 in Liberty County, which was abandoned at 9863 feet. This test stopped in the Dibollensis of the Jackson series, which is above the Cockfield formation. The company had several showings of gas during the drilling of the well. Yount Lee Oil Company's deep test is approximately nine miles northwest and down dip from Sun Oil Company's deep test. One mile south and little east of the deepest abandoned test, Yount Lee Oil Company drilled another deep test which was abandoned at 9334 feet in the McElroy formation. The well was known as Plummer 1.

Sun Oil Company's Long 1, started drilling the latter part of December, 1933, and at 5916 feet the hole was found to be off vertical and was plugged back to 5300 feet and sidetracked at that depth. From 6006 to 6011 feet there was a slight showing of oil, at 6062 feet on a drill stem test the well showed 700 pounds gas pressure along with some salt water and nine thribbles of oil and mud in five minutes. From 6389 to 6407 feet, the well had a slight showing of oil and on a drill stem test from 6375 to 6407 feet the well made salt water in 23 minutes through a three eighths-inch choke on top and bottom. From 6575 to 6632, salt water sand, 6522 to 6534 feet another salt water sand. At 7138 feet a drill stem was stuck about 3500 feet and after washing at this total depth nine and five eighths-inch casing was set at 6238 feet with 500 sacks of cement. At 7168 feet the operators had a sand showing a litle oil and salt water. The wildcat tried to blow out from 8297 to 8303 feet and a gas sand was encountered at 8228 feet. When coming out of the hole with a core from 8443 to 8446 feet the well tried to blow out again. As mentioned above the operators now have a drill stem stuck at 8594 feet.

To the northwest of this test, 13½ miles, Miramar Corporation's Tolidor

1, S. Morris Survey, was abandoned the previous week at 5573 feet. This test was drilled by Turnbull & Irwin. The only other active wildcat in this county is Magnolia Petroleum Company's Herbert Trust 1, two miles east of White's Branch and south of Sea Breeze. The wildcat was drilling in shale at 5616 feet at the close of the week.

To the south of Hamshire and northwest between the Hamshire prospect and Big Hill dome, two of the major oil companies are staging a large lease play, with both of the above companies taking large spreads.

Sour Lake Cockfield Well Is Abandoned

Houston.—Pharr et al's Bernard 1, quarter mile east of production in the Sour Lake field of Hardin County, was abandoned at 7061 feet at the close of the week. This test created excitement along the Texas Gulf Coast due to the fact that it had penetrated the Cockfield and produced a small amount of oil in the salt dome belt of the district. This test was the first well on the Coastal area to encounter the Cockfield formation this deep in the salt dome area. Top of the Cockfield was encountered at 6935 feet. A sand was logged from 6935 to 6944 feet, with the bottom section of the sand showing oil and at this depth the well showed a heavy gas pressure and tried to blow out. Mud was pumped into the hole and the well was killed. The operators drilled on to 7060 feet and plugged back to 4800 feet to test the sands around the producing depth. At this time the wildcat was shut down pending the consummation of a deal with Sun Oil Company. It was reported several weeks ago that the major oil company would take the test over. The latest reports on the test is that Sun Oil Company is taking over the 70 acres that the well is located on and is to drill a Cockfield test within 30 days of August 22, 1934. Cash consideration of $15,000 and the same amount out of oil. Approximately 150 west of this test Alpha Petroleum Corporation abandoned its Weiss 1, at 7012 feet due to heaving shale. This well was the second test to reach the Cockfield formation. Pharr et al's Bernard 1 is capable of making 20 to 30 barrels of oil per day. When the well encountered the formation and showed oil acreage was sold for as high as $500 per acre. The old operators of the Bernard 1 retains a quarter overriding royalty.

Harris County

Houston.—W. U. Paul's House 1, two miles northeast of the Hale prospect, M. Magruder Survey of Harris County, was drilling sand below 3846 feet. This test topped the Oakville at 2380 feet, Catahoula 2524, Heterostegina 3559 and was drilling in the Frio at 3846 feet.

While drilling in the Frio sand it was reported the well showed oil in the drilling mud from 3839 to 3845 feet. The well has an elevation of 103 feet and it topped the Heterostegina from 3559 to 3579 feet. To the east of this test and east of Emerald Petroleum Company's test Shell Petroleum Corporation has leased within the past two weeks approximately 11,000 acres. South of this large lease Sun Oil Company is reported taking a large spread in the eastern section of Texas New York Development Company's Ralston 1, which is located near the Green's Bayou and 12 miles east of Houston. The reported price was $2.50 per acre. The Ralston 1 was drilling shale at 5242 feet after testing salt water from 4861 to 4871 feet. This test topped the Heterostegina at 4497 feet and Discorbis at 4390 feet. To the northwest of this test, Southland Oil Company's Galney 1, H.&T.C., Block 1, Section 4, was abandoned at the close of the week at 6628 feet. This wildcat was the deepest test to be drilled in the area. There has been approximately 15 wells drilled in the area, heretofore the deepest was 4200 feet.

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General Crude Oil Company's Rorick 1, J. C. Ogburn Survey of Harris County, was coring below 6660 feet. This test is a "mystery" well and all information is being withheld by the operators.

Montgomery County Wildcat Abandoned

Houston.—Shell Petroleum Corporation's Creighton 1, three and half miles west of Conroe in the J. Pevehouse Survey of Montgomery County, was abandoned at 5050 feet after encountering salt water in the Cockfield. This wildcat topped the Hockleyensis at 3719 feet, Dibollensis 4402, and Cockfield at 4529 feet. The elevation of the test is 145 feet.

To the east of this test near the Splendora area, another test will be drilled to the Cockfield formation. The location on the test has not been announced yet, but will be to the southwest of Steen Drilling Company's Texas Long Leaf Lumber Company 1, discovery well for the area. To the west of this proposed test, Midland Oil Company has turned over 10 acres to two oil operators out of 140 acres in the W. Strickland Survey of Montgomery County, being in the Conroe field. The 10-acre strip includes the old T. L. Cummings 1. Consideration is $96,000 out of three eighths of seven eighths of oil produced.

Hardin County Lease Play Active

Houston.—Between Wilcox Oil & Gas Company's Sternberg 1, which is now shut down at 6018 feet, and the old abandoned test of Greer & Frazier, in Hardin County, a leasing campaign has been in progress for some time. A block was taken by two independent oil operators and who are obligated to drill a 6800-foot test within two and a half months from the date of the contract. The block was formerly owned by one of the major oil companies. It is reported now that the major oil company is trying to re-lease the block.

To the southeast of Kountz and east of the Saratoga field, a party has taken a 60-day option, paying $10,000 for the period, if the option proves satisfactory, the party is to pay $40,000 additional and drill a test. To the west of this proposed test another independent operator is trying to finance a Cockfield test. The operators have approximately 1000 acres in the area. One of the major oil companies was reported interested in the proposed test but has recently turned the deal down.

In the Arriola field of Hardin County,

Republic Production Company has abandoned Arriola Fee 2-X, at 4832 feet after plugging back from 6290 feet. On a drill stem test from 3080 to 3095 feet the well showed eight thribles of salt water through a three eighths-inch choke in five minutes. The operators took several other tests which showed salt water.

Texas Gulf Coast Has 20 Completions

Houston. — There were 10 failures and 10 producers completed along the Texas Gulf Coast during the past week. The 10 producing wells had an initial of 7482 barrels daily. Of the 10 failures eight were wildcats. The Conroe field of Montgomery County lead the list of producers. Three were reported for this field. Conroe to date has produced over 360,720,000 barrels of oil. The expected ultimate recovery is 900,000,000 barrels.

Completions along the Texas Gulf Coast during the past week are as follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
ARRIOLA—		
Republic Prod. Co., Arriola Fee 2-X	*	4832
BARBERS HILL—		
Moody Corp., Barber A-6	435	4218
CONROE—		
Alpha Pet. Corp., J. L. Hensley 1..	1440	5094
Humble O&R Co., Griffin 6	2088	5117
So. Tex. Dev. Co. K-1.....	264	5148
HIGH ISLAND—		
Yount Lee Oil Co., B&O 4	*	6224
LOUISE—		
Pure Oil Co., Kountz 2	88	5155
MANVEL—		
The Texas Co., F. Lieder 2	1416	5993
MARKHAM—		
Powers Prod. Co., Myers 3	408	3446
RACCOON BEND—		
Humble O&R Co., Sherrod 7	912	4115
THOMPSON—		
Humble O&R Co., Lockwood-Sharp A-28	240	5341
TOMBALL—		
Humble O&R Co., R. F. Irvin 2....	191	5588
AUSTIN COUNTY—		
Indian Territory Illuminating Co., Wangler 1, 3 mi e of New Ulm, A. Kuykendall sur.	*	4305
GALVESTON COUNTY—		
C. R. & G. Drilling Co., Spoor 1, 3 mi s of Dickinson, W. K. Wilson League	*	6577
GRIMES COUNTY—		
W. D. Roan et al, Kelly 1, near Carlos, U. Sanders sur, ...	*	2860
HARDIN COUNTY—		
Pharr et al, Bernard 1, half mi e of production in Sour Lake field, H. & T. C. Sur. No. 69	*	7060
HARRIS COUNTY—		
Midland Oil Co., Galney 1, at Little York, near Houston Conroe Highway H&TC Blk. 1, Sec. 4 sur....	*	6628
JEFFERSON COUNTY—		
Miramar Corp., Tolidor 1, 4 mi n and little e of Meek in S. Morris sur	*	5573
LIBERTY COUNTY—		
R. M. Bruner, Bell 1	*	....
MONTGOMERY COUNTY—		
Shell Pet. Corp., Creighton 1, 3½ mi due w of Conroe, J. Pevehouse sur.	*	5050

*Failures; †Junked; ¶Million cu. ft. gas.

Seventh Cockfield Producer At Raccoon Bend Is Largest

Houston.—In Austin County, Indian Territory Illuminating Company's August Wangler 1, three miles east of New Ulm, in the A. Kuykendall Survey, was abandoned after penetrating Cockfield 1065 feet. The bottom of the hole was 4305 and the company cored salt water in the Cockfield formation from 4015 to 4045 feet. This test was contracted to go to 4300 feet, but operators decided to test the lower horizons of the formation. The Cockfield was encountered at 3240 feet, Hockleyensis 2940, Masselina Pratti 2881 feet. On a recent drill stem test taken from 3911 to 3988 feet the well showed three joints of drilling mud through a quarter-inch choke on bottom and a three-eighths-inch choke on top in 17 minutes.

In the Raccoon Bend field, Austin County, Humble Oil & Refining Company's Sherrod 7, W. C. White Survey, was completed for 912 barrels of oil daily through a three-eighths-inch choke from 4115 feet. This test was the seventh Cockfield producer in the field and had the largest body of oil sand than any other well to penetrate the formation. The sand was logged from 4009 to 4096 feet. This well is near R. Thompson 14, which was the largest producer in the field and it came in for 888 barrels of oil daily while the Sherrod made 912 barrels daily, making the latter test the largest producer in the Raccoon Bend field of Austin County. Humble Oil & Refining Company recently purchased more royalty in the Smeathers Survey.

Wharton County

In Wharton County, Tri State Oil Company's Fpktak 1, half mile west of Allied Mineral Corporation's Farmer 1, which discovered a new producing sand for the Boling field, S. F. Austin Survey, topped the oil sand at 3762 feet and were preparing to set casing to test the well. Cap rock was encountered at 3759 feet. The well is reported to be in Frio sand and is supposed to be running higher than first producer from this sand.

Texas Gulf Production Company's Krestal, northwest of the Leach prospect and near the Hilje prospect ETRR Survey 151, was drilling below 5070 feet after topping a sand around 4951 feet that contained no shows.

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Bosco Field Is Extended and Defined During Week

Lake Charles, La.—Activity in the Basco field, Acadia and St. Landry Parishes, was particularly interesting during the past week. The field was defined to the north and is expected to be soon limited in an eastward direction. The encouraging news from the field was constituted by the completion of the Gulf Coast's deepest producing well, which also extended the field.

The field was defined to the north when Superior Oil Company and Pure Oil Company's Marcelius Savoie 1, Section 27-8s-3e, was abandoned at 9177 feet. This well, located approximately 5000 feet northeast of the discovery well, ran about 135 feet low on the Heterostegina marker as compared with the discovery well. Salt water was encountered around 8200 feet. It is the second dry hole for the field and is also the deepest hole to be drilled in the area.

Paleontological information indicates that the productive area of the field cannot extend more than three quarters mile eastward from present proven limits. Superior Oil Company and Pure Oil Company's A. Martinez 1, drilling in shale at 8890 feet, is the key well and the most important test in the field at present. The importance of this test lies in the fact it is running lower than L. Richards 1, recently completed producer one mile to the west, and is 100 feet lower than Iseringhouser 1. If the well is a dry hole, as expected, the limits of the field will be determined. The test was spudded on July 26, 1934, and since that time has averaged approximately 240 feet daily.

During the week, the same companies finaled L. Richard 1, Section 34-8s-3e, at 8717 feet, as the deepest producing well in the Gulf Coast. Although structurally 43 feet lower than the discovery well, this producer made 487 barrels of 37.7 gravity oil during the first 15-hour gauge. This was made through a nine sixty fourths-inch choke with a tubing pressure of 1410 pounds and a casing pressure of the same amount. On the first 24-hour gauge, starting 7 a.m. August 25, the well made 1090 barrels through a quarter-inch choke with a tubing pressure of 1375 pounds and a casing pressure of 1500 pounds. Top of the sand was logged at 8703 feet. As compared to the discovery well the well was running low on geological markers, but was completed for the fourth producer for the field and extended the Bosco field approximately half mile to the south.

Although the test is the deepest producing well on the Louisiana Gulf Coast, it is questionable if it is the deepest sand to be discovered in the field as the discovery well was drilled to 8919 feet and was reported to have had shows below the producing sands at 7845 to 7850 feet. It is recalled the discovery well was plugged back and casing was perforated at the sands. L. Richards 1 was completed at 8718 feet and was running lower than the discovery well approximately 53 feet. Information to date states that the well opened a new discovered producing sand.

Bosco to date is comprised of four producers averaging around 3000 barrels of oil per day, two dry holes and one junked hole, five drilling below 7000, one below 4000 feet, one below 129 feet and the remaining wells are locations, rigging up and foundations. Development which naturally radiated in all directions from the discovery well located in the northwest quarter of Section 34-8s-3e, has touched the south half of Sections 26, 27, 28, and the north half of Sections 33, 34 and 35, township eight south, and range three east.

To the north and approximately 3200 feet from the discovery well, the company abandoned J. S. Arceneaux 1, at 8771 feet after encountering the Heterostegina at 8170 feet and with this marker compared to the M. Savoie 1, which topped the formation at 8075 feet, shows a low in this direction. To the south of J. S. Arceneaux 1, and 2200 feet west of the discovery well, E. Mire 1, was completed at 8088 feet. This completed well was running approximately 200 feet higher than the J. S. Arceneaux 1 and 30 feet lower than the discovery well. Approximately 5000 feet southwest of the discovery well, the company junked Leo. Kahn 1, at 7746 feet. The reason for this was the hole was in bad condition. The field has not been defined in this direction as the well did not furnish sufficient paleontological information to determine the structural condition in this southwesterly direction. To the northeast of this test Standard Oil Company of Kansas' J. Mouton 1, has been shut down for some time at 1400 feet and the last reports on the test are that the operators are removing part of the rig.

The areas to the north, northwest, west, and possibly in the southeasterly direction are fairly well defined as E. Mire 1, to the west of the discovery well and the third producer for the field, not only is lower structurally than the discovery well, but it is showing salt water. It is the opinion of competent observers that the areas to the east and southwest of the discovery well are open for possible extension production.

Iseringhauser 1 is the most easterly producer, being approximately 5000 feet from the discovery well. This was the second producer for the field and was completed at 7850 feet and on geological markers is normal with the first producer. The company has three drilling wells between the discovery and the producer, and at the close of the week, the status

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of each are as follow: A. Forrestier 1, 2000 feet east of the discovery well, was drilling sand and shale at 7489 feet; E. Coneaux 1, 1000 feet east of Forrestier 1, was coring at 7651 feet; and W. V. Larcade 1, 1000 feet east of Comeaux 1, was drilling sand at 4289 feet.

The company has two extension tests to Iseringhauser 1, A. Martinez 1, which was mentioned above and is 3500 feet southwest from the second producer. To the northeast L. Savoie 1, 3500 feet from the most eastern producer was drilling at 7747 feet at the close of the week.

It is shown that Superior Oil Company has started an exploratory drilling to the east after defining the field in three directions. The company has now made location for Lester Johnson 1, located 677 feet east and 336 feet south of the northwest corner of 47.15-acre tract in Section 34-8s-3e. This test is between the recent producer L. Richard 1, and the discovery well. When operators started to develop the Bosco field most of the wells that were drilled were marked as wildcats as the operators were trying to get some information as to the boundaries of the new field. Hernandez 2 is located between the E. Mire 1 and the discovery well and at the close of the week the well was rigging up.

The remaining wells operated by Superior Oil Company of California and Pure Oil Company are as follow: Guilbean 1, Section 26-8s-3e, was rigging up; E. Lablanc 1, quarter mile southwest of the discovery well, spudded August 31, 1934, and was drilling at 120 feet. L. Lavergne 1, Section 27-8s-3e, is building foundation.

Bosco indirectly created the present amount of the enormous exploration work carried on by both major and independent oil operators throughout Coastal Louisiana, as it established the possibilities of the territory as a major oil reserve. An indication of the heavy leasing of both commercial and optional blocks was shown during the past week when several of the major oil companies took several 10,000-acre blocks for geophysical work.

Brazoria County

Houston.—Approximately three miles south of Alvin, in the H&TB Survey No. 7, of Brazoria County, Gillock Petroleum Corporation's Truska 1, was reported installing a blowout preventor after uncovering a gas sand at 4250 feet. Around Harrison & Abercrombie's Bernard River Land Company 1, in old Ocean Area, two miles northwest of Sweeney of Brazoria County, $40 base is being paid for royalty. The well at the close of the week was down to 5963 feet in sand.

Gueydan Deep Test Going Ahead After Showing

Lake Charles, La.—In the Gueydan field of Vermilion Parish, Pure Oil Company's Alliance Trust Company 6, was coring below 8560 feet after having another good oil show from 8551 to 8560 feet. This test is the deepest well to be drilled in the field and the operators are carrying the hole deeper for geological information. On several cores below 8000 feet the well has shown oil but the recent core that showed oil was the best of the group. Gulf Refining Company has leased over 500 acres in the area for protection.

Nine New Oil Wells In Louisiana Coast

Lake Charles, La.—Completions along the Louisiana Gulf Coast during the past week resulted in nine oil wells with an initial production of 5609 barrels. Two of the six failures were geophysical tests.

Tide Water Oil Company's Bourgeois 1, on the west flank of the Welch field in Jefferson Davis Parish, was abandoned at 5368 feet after plugging back from 6107 feet and whipstocking at 5030 feet. A two-foot core was taken from 5364 to 5366 feet, and the bottom part of the core showed saturation, but on a drill stem test at 5368 feet the well made seven thribbles of salt water along with a little oil and gas. Before plugging back a test at 5370 feet showed 150 feet of 28 gravity oil and 60 feet of salt water. This test missed the Heterostegina, Marginulina and part of the Frio. The hole was bottomed in the Vicksburg.

Completions along the South Louisiana Coast during the week were:

Company, Lease, Location	Initial Prod. Bbls.	Depth
BOSCO—		
Superior Oil Co., Richard 1	1090	8718
Marcellos Savoie 1	*	9177
HACKBERRY—		
Yount Lee, Gulf Land A-1	*	....
Gulf Land A-2	*	....
IOWA—		
Barnsdall, Fontenot 6	300	7008
Magnolia, Gilson 1, (wo)	535	7027
Shell, F. Fontenot 8	1025	6960
Hyed 3, (wo)	95	5539
JENNINGS—		
Abshire & Balyard Oil Co., Syndicate Clements 2, (wo)	40	1761
LEESVILLE—		
Texas Co., Leesville 19	1350	3262
Leesville 26	1075	4276
SULPHUR—		
Union Sulphur Co., Fee 794	100	5241
VINTON—		
Gulf, G. N. G. 72, (wo)	*	3170
Vinton Oil Co., Grey 2, (wo)	*	3300
JEFFERSON DAVIS PARISH—		
Tide Water, Bourgeois 1, sw flank of Welsh field, sec. 28-9s-5w	*	5368

*Failures; †Junked; ¶Million cu. ft. gas.

The STUMPS in the Oil Business

Caddo Lake meanders for sixty-five miles through Louisiana and Texas. Its waters are a maze of submerged stumps. But the old nesters, and the pumpers who tend the many oil wells on the bosom of this inland sea, come and go in high speed boats with never a mishap. Safety lies in sinuous paths—but they know these uncharted ways. And it might be added that in twenty-five years or so PELCO has learned to avoid the stumps in the oil business of this Caddo County. You may know the channels yourself—and likely do—but it's nice to have a pilot aboard.

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SHREVEPORT, LOUISIANA

Louisiana September Allowable Same as August

Shreveport, La.—Dr. J. A. Shaw, director of the minerals division of the Louisiana Conservation Commission, last week was preparing to issue a proration order allocating allowables to Louisiana fields for the month of September. The state's September allowable is 87,200 barrels, the same figure as for August.

Dr. Shaw announced that there will be no change in the allowable for North Louisiana for September from August's allowable of 23,500 barrels. Any changes that will be made will be in South Louisiana districts. Not a well in North Louisiana is under proration.

Reports were received here last week of a contemplated federal investigation of production in the Leesville field, La Fourche Parish, South Louisiana.

Allowable fixed by the conservation department for the Leesville field is 10,500 barrels per day while current production is reported around 4600 barrels per day above that figure. Louisiana has been running up to 10,000 barrels per day above the state allowable, all of the excess being in the south portion.

North Louisiana's Three Completions Add No Oil

Shreveport, La. — Only three wells were completed in North Louisiana last week, two being gassers in the Monroe field, and one a wildcat abandonment drilled on a geophysical location on a 7000-acre block owned by Gulf Refining Company in Webster Parish.

Completions last week in North Louisiana follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
OUACHITA PARISH (Monroe)—		
Carbons Consolidated, Cole 4, ne ne 36-20n-4e	¶1	2328
Guthrie 8, 50-20n-4e	¶35	2148
WEBSTER PARISH—		
Gulf, Tom Crichton 1, ne sw 15-18n-9w	‡	2810

*Failures; †Junked; ¶Million cu. ft. gas.

Blocking for Two Bossier Wildcats

Shreveport, La. — Drilling of two wildcat tests in central Bossier Parish are indicated in leases placed on file at Benton, Bossier Parish seat. W. A. Kirklin has been taking leases in township 21 north, range 13 west, for the consideration of drilling a well, and H. H. Temple, Trustee, has also been taking leases with the obligation to drill a test in township 19 north, range 13 west.

Howard & Bird of Shreveport have assigned part of their holdings on which they are drilling a wildcat test in Section 36-20n-13w, to Temple.

Three Gas Tests Start at Blanchard

Shreveport, La. — Three new tests spudded last week in an effort to find further Nacatosh gas production at the 900-foot level in the Blanchard gas field, Caddo Parish. All of the tests cemented eight-inch surface casing at 20 feet. These are: W. T. Boyd's W. P. Hammock 1, Section 6-18n-16w; A. L. Pollard et al's P. A. Sharpe 1, Section 10-18n-16w; and The Texas Company's W. E. Noel Fee 1, Section 2-18n-16w.

In the Caddo district, Caddo Parish, Simplex Oil Company erected derrick for W. E. Glassell 1, Section 36-20n-15w.

One new location was made in the Sligo gas field, Bossier Parish, Triangle Drilling Company's Skannal Unit 2, well 1, Section 14-17n-12w.

In Panola County, East Texas, Payne Drilling Company is rigging for a wildcat test, J. Liston 1, East T. Hill Survey.

Two Arkansas Wildcats Test Dry, Drilling Ahead

Texarkana, Ark.—Two Miller County, Arkansas, wildcats were in the limelight last week with testing of two separate horizons.

Bloomburg Oil Corporation's Patterson 1, SEc SE NE Section 5-19-28, located 200 feet east of E. L. Young's Patterson 1, that reported an oil showing in what was identified as Woodbine sand several months ago at 3655 feet, later having casing to collapse while being bailed, last week tested salt water in a drill stem test at 3580-90 feet, and later was coring ahead in Eagle Ford shale at 3659 feet.

Little significance on the possibility of the 3655-foot sand's possibilities is attached to the water showing, as it was reported that the E. L. Young test showed water above the oil sand horizon.

In the same area, Oilwell Oil Corporation's Burt Dodd 1, NWc SW NE Section 10-19-28, Miller County, which had reported a gas show in the Nacatosh, tested dry in a drill stem test at 1990 feet and later was drilling in chalk just below 2500 feet.

Louisiana Gets 46 New Drilling Permits

Shreveport, La.—Forty-six drilling permits were issued last week by the minerals division of the Louisiana Conservation Commission, the majority in south Louisiana.

The south Louisiana permits were divided among the following parishes: Acadia, three; Beauregard, one; Calcasieu, nine; Cameron, one; Iberia, three; Jefferson Davis, one; LaFourche, five; Plaquemines, five; St. Landry, two; and Terrebonne, two.

The north Louisiana permits were divided aong the following parishes: Bossier, two; Caddo, three; East Carroll, one; Ouachita, three; Sabine, three; Union one, and Webster, one.

Four Wildcat Tests Started in Arkansas

El Dorado, Ark.—Four wildcat tests were started last week in south Arkansas, in as many different counties. Seton Oil Producing Company, has made location for C. H. Murphy et al 1, 330 feet south and east NWc NE SE Section 34-15-10, Bradley County. Ralph H. Neely has spudded Flemming Heirs 1, 150 feet north and east SWc NW SW Section 31-18-25, La Fayette County.

In Ouachita County, J. S. Carnes has cemented 10-inch casing at 44 feet in D. Scott 1, 150 feet south and east NWc SW NE Section 18-14-18. Carnes has a 2500-acre block. The location is eight miles southwest of Camden and only a few miles from the old McDonald field that had several small oil producers in 1928.

In the Woodley area of Union County, where various tests have shown oil in the Nacatosh at 2100 feet, Reuter Oil Company is rigging for Kinard 1, 330 feet south and east NWc SE NW Section 32-18-14.

Arkansas had no completions last week.

Start Test in City of Jackson

Jackson, Miss.—With a low bid of $11,500 E. R. Owen, drilling contractor of Jackson, last week was awarded contract for a new test to be drilled on the Belhaven College property in the City of Jackson, Hinds County part of the local gas field, which is under option to the town of Canton, 25 miles north of here, which has a PWA loan for a gas line from Jackson to Canton. The loan also includes a gas distributing system for Canton, a town

of about 4000 population. The town of Canton's lease in the Jackson field is in Section 35-6n-1e. The lease is 90 acres and already has one gas well but before the PWA loan could be made available it required a second gasser on the property.

Mississippi Wildcat Tops Selma Chalk

Jackson, Miss.—Clarke County Oil Company's S. B. Kirkland 1, located 1820 feet south and 660 feet east NWc Section 10-2n-16e, Clarke County, Mississippi, last week logged Selma chalk at 2597 feet; elevation 328 feet. This test is 2800 feet north of Gulf Refining Company's Long-Bell Lumber Company 1, which in October, 1931, had an oil show in the Tuscaloosa at 3700 feet. Gulf's test logged Selma chalk at 2633 feet; elevation was 390 feet. Last week Clarke County Oil Company's test was still drilling in chalk below 2700 feet.

Jackson Gas Field Extended Quarter-Mile

Jackson, Miss. — The Hinds County part of the Jackson gas field was extended a quarter of a mile northeast last week by a 40,591,000 cubic foot gasser.

The extension gasser logged top of chalk at 2425 feet and was completed six feet in the chalk; elevation was 280 feet.

A wildcat was abandoned in Madison County at 2348 feet in Wilcox.

Completions last week in Mississippi follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
HINDS COUNTY (Jackson)—		
Atkins & Hightower, C. G. Sanders 1, nwc sw nw 30-6n-2e	¶40½	2431
MADISON COUNTY—		
H. A. Wilson, Cepek 1, sw sw ne 24-9n-3e	*	2348

*Failures; †Junked; ¶Million cu. ft. gas.

Tennessee Wildcat Encounters Gas

Memphis, Tenn.—E. R. Henderson's Jarrett 1, located five miles from Brownwood, Tennessee, in Haywood County, last week encountered a gas showing at 2200 feet in what was identified as Tuscaloosa (Woodbine). Operators reported they were holding the gas in with mud preparatory to setting a string of seven-inch casing.

A great number of people have visited the location since the gas showing was reported. The gas is said to be heavily saturated.

Henderson has a block of approximately 38,000 acres checkerboarded around the test.

Cooper Pool Enlarged by Half Mile Northeast Extension

Hobbs, New Mexico. — Agreement has been reached by companies operating in the Cooper field, prolific Lea County area, to restrict development through 1934 to 25 completed wells within a prescribed zone, providing approval can be had for such a program from the Oil Code Administration. The latter originally set a quota of 12 wells for the current year, but a single completion last week will require about 15 progressive offsets in observing the official spacing of one well to 40 acres. Lease owners met in Tulsa early last week and agreed on the number of wells each will drill during the balance of the year, subject to an amended order being issued by the oil code authorities.

Restrictions on drilling will forestall a major development program that would otherwise be inevitable with the adherance to the center of 40-acre unit spacing. Lease ownership is divided in such a manner that the entire producing area would be blanketed with progressive offsets. All operators are in accord with the limitation of one well to 40-acres, but some prefer to spot wells in the 40-acre unit corners so as to prevent forced drilling. Those having leases believed to be on the rim of the productive area contend that a corner location may be good, while a center of unit may be doubtful for commercial production. Completed wells cost about $50,000 each, including tank battery, gas trap and other surface connections. All drilling is performed with heavy duty type of rotary, and contractors are receiving from $4.75 to $5.00 per foot. Only a few leases can be developed without setting separate tanks and traps for each well as result of the wide spacing.

Distribution of the 25 wells projected for 1934, as agreed upon at the Tulsa meeting, follows: Phillips Petroleum Company and Pure Oil Company nine, including four completed and in process of completion; General Crude Oil Company and Magnolia Petroleum Company four, including three now on production; Humble Oil & Refining Company four, including one completed; Stanolind Oil & Gas Company three, including one completed; Gypsy Oil Company two and Continental Oil Company and The California Company three.

Productive limits of the field were widened about one half mile to the northeast when Humble Oil & Refining Company's S. R. Cooper 1, C NW NE Section 23-24s-36e, gauged 60 barrels of 30 gravity oil per hour through three quarter-inch choke on 2½-inch tubing from saturated lime at 3557-3572 feet. Gas production was estimated at 1,000,000 cubic feet daily. It is the highest well in the field on structure, having topped the brown lime market at 2744 feet, or 608 feet above sea level, but it is also the deepest. The fact that the oil horizon was found lower is due to a thickening of the lime section, indicating possibilities of a thicker oil zone on top of the structure. Continental Oil Company and The California Company, partners, are moving in equipment to drill R. L. Bates 1, a west offset, while Gypsy Oil Company is starting a south offset.

Revised gauge on Stanolind Oil & Gas Company's A. E. Meyer 1, SEc NE Section 22-24s-36e, credited it with flowing 420 barrels of oil per hour through three-inch line on casing. It was reported last week flowing 160 barrels hourly via tubing under choke from lime at 3505-3514 feet, with an elevation of 3343 feet.

Phillips Petroleum Company and Pure Oil Company, joint operators, scored a big production increase in treating C. Woolworth 1, SWc SE NW Section 23-24s-36e, with 600 gallons of acid in lime at 3503 feet, or 162 feet below sea level. It was completed flowing 294 barrels in nine hours via open 2½-inch tubing, and after treatment gauged 620 barrels in 3 1/3 hours through open tubing. General Crude Oil Company and Magnolia Petroleum Company's Cushing 1, a north offset and the second completion for the field, responded to acid treatment equally as good shortly after completion last June.

Phillips-Pure Interests increased their locations in the field proper to eight during the past week, announcement having previously been made of the first five on the Woolworth tract. The new locations follow: Woolworth 6, C NW NW Section 26; Woolworth 7, C SE SW Section 23; and Woolworth 8, C SW SE Section 22.

Opinion prevails that the Cooper field will eventually be proven a continuation of the North Jal field, which lies about 3¼ miles to the southeast. Both are yielding similar grade of oil from almost identical sub sea depth in the lime. Proof of their relationship was virtually established last week when The Texas Company's I. B. Ogg

1, C SW NE Section 35-24s-36e, and about midway between the two areas, logged first brown lime at 2880 feet, or 398 feet above sea level. This compares with a 2970-foot, or 373 feet plus, lime marker for Stanolind Oil & Gas Company's Meyer 1, largest well in the Cooper field, and is about level on structure with some of the recent big completions in the north portion of the North Jal field. Ogg 1 has been cased with 9⅝-inch pipe at 2897 feet, and will be due within 10 days for a drill stem test of the saturated lime horizon, a proceedure followed by all operators in the Cooper area in advance of running pipe.

Exclusion of a salt water horizon encountered immediately below the main dry gas zone overlying the oil pay in the North Jal field by Repollo Oil Company, subsidiary of Sinclair Prairie Oil Company, is credited with being the answer to this company's success in making good wells on its Elydia Stephens 160-acre tract. Heretofore, operators were of the opinion that early appearance of water and resulting slump in oil and gas production and flowing pressures was due to bottom-hole water. Repollo Oil Company proved otherwise in cementing pipe near the top of the oil horizon in completing its Stephens 1, which offset three of the largest wells in the field. The latter trio developed water in short order. Repollo Oil Company's Stephens 2, NWc NE Section 13-25e-36e, was recently completed flowing 50 barrels oil per hour with 12,000,000 cubic feet of gas daily from lime at 3280-3330 feet, with 2½-inch tubing at 3314 feet. It logged first brown lime at 2760 feet, or 392 feet above sea level. Seven-inch pipe was cemented at 3270 feet. Poe Larsh, geologist, has charge of selecting the casing seat, while Glen Harroun, production superintendent, Fort Worth, supervises the completion of each well.

Handbook Supplements Issued by Division

The Division of Production of the American Petroleum Institute has announced two supplements to its production manuals. These supplements note the changes adopted by the institute's committee on the Standardization of Oil Country Tubular Goods at the Mid-Year meeting held in Pittsburgh in May.

The supplement on "Casing, Drill Pipe and Tubing" is a revision of the Eighth Edition of Stds. 5-A, while the other supplement revises the Fifth Edition of Stds. 5-L on "Line Pipe." Both supplements are being sent to all handbook owners.

Cut Bank Well Makes 500 Barrels

Cut Bank, Mont.—A late report from the Cut Bank field brings news of the largest Cut Bank completion to date in the Cut Bank field. A. B. "Ty" Cobb's Walberger 3, NE SW SE Section 35-35n-6w, in the gas-oil contact sector, which flowed 500 barrels initial. The Cut Bank sand was logged between 2787-2974 feet.

Colorado, Wyoming, Utah Gas Tests Active

Rock Springs, Wyo.—Four tests are under way in the gas fields of the area comprising the northwestern corner of Utah and Colorado, and the southwestern corner of Wyoming.

Mountain Fuel Supply Company's Murphy 2, S½ SE NE Section 21-3n-24e, on the Clay Basin structure, Daggett County, Utah, is drilling at 2425 feet in the shale. One well with a production of 2,500,000 cubic feet daily has been drilled in the Clay Basin field.

Same company is drilling at 3451 feet in Florence Wilson 4-B, CNE NW Section 23-12n-100w, in the Hiawatha Dome gas field, Moffat County, Colorado. In the same field, The Texas Company's Van Schaick 1, E½ SW SW Section 19-12n-100w, is drilling and carrying 8⅝-inch casing at 2010 feet.

Wyoming California Petroleum Company's Union Pacific 2, SE NW NW Section 11-16n-104w, in the South Baxter Basin field, Sweetwater County, Wyoming, is drilling at 1765 feet.

Billings, Mont.—Ohio Oil Company's Agnes Maddox 14, NW NW Section 10-7s-21e, in the Dry Creek field, Carbon County, Southern Montana, is drilling at 5013 feet and is 200 feet above its objective, the Dakota sand.

Correction

Two statements that appeared in the article "Recovery of Oil from Depleted Sands by Means of Dry Steam," by Smith L. Stovall, which was published in The Oil Weekly, August 13, 1934, need clarifying.

It was stated "It was determined that fluid rose some 100 to 125 feet in producing wells overnight, its temperature was raised some 230 degrees." Whereas the temperature of the fluid was not raised—it being impossible to accomplish this—but the sand temperature was increased 230 degrees.

In another place it was said "This would seem to indicate that 12,000 pounds of steam moved through the sand." This statement should have read that the 12,000 pounds of steam moved the same amount of oil as did the 52,500 pounds.

Utah Test Going Deeper After Four Million Foot Gas Show

Castle Dale, Utah.—Ramsey Petroleum Corporation of Tulsa, Oklahoma, drilled into a 4,000,000 cubic foot wet gas flow in Weightman 1, NE SW Section 18-26s-7e, on the Last Chance Creek structure, in the southwestern corner of Emery County, 40 miles south of here. The gas flow was encountered between 2690-95 feet in the test's first objective, the Moenkopi sand.

Operators are killing the gas flow and will underream the eight-inch casing from 2123 feet, preparatory to drilling deeper from present bottom at 2697 feet. A week ago the test struck a 50,000 cubic foot flow of gas at 2530-34 feet in a broken lime in the Monekopi. Operators plan to test three more possible producing horizons. Contract for drilling the well is let to the Manning & Terry Drilling Company of Tulsa, and will go to 4000 feet unless production is developed at a shallower depth.

Ramsey Petroleum Corporation's strike is the second commercial natural gas flow encountered in Utah. Producers & Refiners Corporation opened up a 2,500,000 cubic foot flow of gas on the Clay Basin structure, Daggett County, and the structure is now being developed by Mountain Fuel Supply Company as a reserve for Salt Lake City. Near Price, 20 miles north of the Last Chance Creek structure, a large reserve of carbon dioxide gas has been developed by Carbon-Dioxide & Chemical Company.

Acreage at Last Chance is controlled by the American Oil Corporation of Los Angeles. It was assembled by J. W. Weightman, A. E. Gibson, and E. O. Anderson after Secretary of the Interior Albert B. Fall cancelled out Shell Petroleum Corporation's lease on the structure after Holland had refused to grant the United States reciprocal oil and gas development rights in the Dutch East Indies. American Oil Corporation has 44,000 acres in a solid block under lease. It will turn an unnamed portion of the acreage to Ramsey Petroleum Corporation on completion of the well.

Two New Tests Start at Cut Bank

Cut Bank, Mont.—Two new tests started drilling while five wells were near the completion stage in the Cut Bank field this week. There are 26 active operations in the field.

Montana Power Gas Company's Sheuren 1, CSW SW Section 21-33n-5w, is rigging up with cable tools. The Texas Company's State-Consolidated 1, SE NE Section 36-34n-6w, is spudding with cable tools.

Indian Oil Company's Fee 1, CSE SE section 3-34n-6w, is drilling in the Ellis at 3080 feet. The lower Cut Bank sand was logged between 2970-95 feet and showed for about five barrels daily.

The Texas Company is awaiting spudder to drill in Emma Schlagg 2, CSE SW Section 26-36n-6w, with the seven-inch production string cemented at 2808 feet. P. M. K. Petroleum Company is drilling in Mattson 1, NW NW Section 14-34n-6w, at 2900 feet with the 6⅝-inch casing set at 2890 feet. Dakota-Montana Oil Company is cementing eight-inch production casing on top of the pay at 2840 feet.

Another Soap Creek After 12 Year Wait

Hardin, Mont.—The first oil well completion in the Soap Creek black oil field, Big Horn County, Montana, in the past 12 years was made this week. California Independent Oil Company's Crow Indian 1, SW NW NE Section 34-6s-32e, 40 miles south of here, flowed at the rate of 300 barrels daily. Producing sand was logged between 1643-58 feet.

Osage Completion

Osage, Wyo.—One operation, a completion, was reported from the Osage field, Weston County, Wyoming, this week. Chadron-Osage Oil Trust's Fee 37, NE SW NE Section 18-46n-63w, pumped 20 barrels in the first 24 hours. The pay was logged between 595-600 feet in shale.

Oregon Basin South Area Yields Gas Flow

Cody, Wyo.—In the south fault block area of the Oregon Basin field, a sector hitherto untested for oil or gas, Dry Creek Oil Company (Val M. Kirk and associates) drilled into 8,500,000 cubic feet of gas, proving closure to the area with an immense drainage.

The test, Government 1, Lot 2, NE SW Section 9-50n-100w, encountered the gas at 840 feet, and has set 12½-inch casing at 935 feet, and is drilling deeper below 1000 feet. Gas was opened up in a four-foot sand in the Frontier. Objective is the Wall Creek series at 1200 feet, where light oil production is expected. Below the Frontier are the Morrison, Sundance, Embar, Amsden, and Madison formations as possible oil bearing formations.

The fault block area is five miles south of the crest of the South Dome, in the Oregon Basin field. The block has a large drainage area in the south, southeast, and southwest.

Argo Oil Company's Ellen 10, SE SE NW Section 14-44n-98w, in the Hamilton Dome black oil field, Hot Springs County, made the largest completion to date in the field. Well is pumping an average of 475 barrels daily on a 10-day pumping test from the Embar pay logged between 2672-

Rocky Mountain States Completions

NEW MEXICO

Company, Well and Location	Init. Prod. Bbls.	Depth
LEA COUNTY (Cooper Field)—		
Phillips Pet. Co.-Pure Oil Co., C. Woolworth 2, nwc ne nw 23-24s-36e	4700	3503
Stanolind O&G Co., A. E. Meyer 1, sec ne 22-24s-36e	10,080	3514
LEA COUNTY (Hobbs Field)—		
Stanolind O&G Co., B. H. Turner 8, c nw nw 34-18s-38e	4750	4200
LEA COUNTY (Jal Field)—		
Repollo Oil Co., E. Stephens 2-A, nwc ne 13-25s-36e,	¶12-1200	3330

MONTANA

GLACIER COUNTY (Cut Bank Field)—		
A. W. Cobb, Walberger 3, sw se 35-35n-6w	500	2806
Dakota-Montana Oil Co., Winkler 1, nw nw 26-35n-6w	75	2898
Texas Co., Morrison-M358 2, Lot 6, 22-34n-6w	220	2894
Indian Oil Co., Fee 1, cse se 4-34n-6w	*	3080
P. M. K. Petroleum Co., Mattson 1, nw nw 14-34n-6w	*	3023
TOOLE COUNTY (Kevin-Sunburst Field)—		
Potlatch Oil & Gas Co., Fee 2, nw sw sw 24-31n-1w	100	1246
Big West Oil Co., Sorrell 2, ne se 7-34n-2w	*	1497

WYOMING

WESTON COUNTY—		
Chadron-Osage Oil Co., Fee 37, ne sw ne 18-46n-63w	20	500

COLORADO

MOFFAT COUNTY—		
Stanolind Oil & Gas Co., Parkinson S-D 33, se sw se 22-4n-92w	1680	3502
ROUTT COUNTY—		
Texas Co., J. C. Sampson 1, ne se 2-1s-85w	*	1331
Texas Co., Carstarphen 5, ne nw 5-6n-86w	*	3945

*Failures; †Junked; ¶Million cu. ft. gas.

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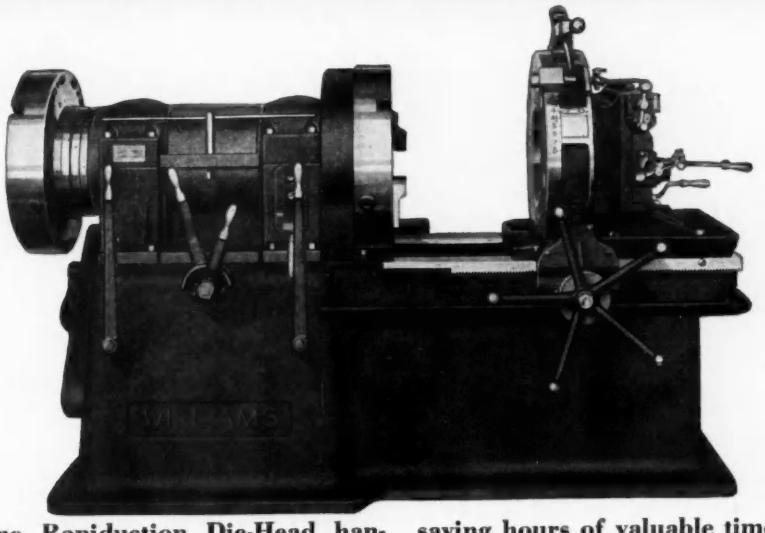

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2793 feet. The well is located in a rich spot in the field, and is southeast offset to Empire State Oil Company's Republic 4, which had an initial of 300 barrels, and a south offset to Columbus Oil Company's Phoebus 1, which had an initial of 350 barrels.

In the Byron field, Sidney H. Keoughan and Taylor Oil Company's Hoskins 1, Lot 59, SE SE Section 25-56n-97w, is drilling at 3300 feet. Ohio Oil Company's Byron-Union 2, SE NE Section 2-56n-97w, is drilling at 3656 feet in shale.

In the Frannie field, Kirk Oil Company is spudding Kirk 2, in the northwest corner of the SW SW Section 24-58n-98w. Stanolind Oil & Gas Company's Government 6, NW NW Section 25-58n-98w, is drilling at 1594 feet.

Seven California Wells Initial 19,000 Barrels

Los Angeles.—Another new well at Kettleman Hills making better than 10,000 barrels showed up in the California completion list the past week. Kettleman North Dome Association's No. 87-28J was good for 10,775 barrels of 35.5 gravity oil in addition to 10,190,000 cubic feet of gas. A second completion at Kettleman Hills came in making 6000 barrels of 37 gravity oil and 8,700,000 cubic feet of gas.

A new producer at Mesa in Santa Barbara County started out making 1000 barrels of 19 gravity oil, while a new well at Mt. Poso was good for 625 barrels of 13.7 gravity oil.

Following is list of new completions:

Company, Lease, Location	Init. Prod. Bbls.	Depth
HUNTINGTON BEACH—		
Avalon Oil Corp., Plavan 1.....	75	3950
LONG BEACH—		
V. R. G. Wilbur, De Angelo 1.....	300	4995
KETTLEMAN HILLS—		
Kettleman North Dome Assn. 87-28J 10,775		8375
Standard Oil Co., 45-1P.....6000		8180
MT. POSO—		
Two and One Oil Co., No. 5.....	*	1482
Shell Oil Co., Vedder Roll 4.....	625	1975
ROUND MOUNTAIN—		
Shell Oil Co., Jewett 3.....	335	2128
MESA—		
Wm. Hughes, Hugh-Patrick 1 1000		2085

*Failures; †Junked; ¶Million cu. ft. gas.

Kettleman Edge Test Below 10,000 Feet

Los Angeles.—Two new wells at Kettleman Hills during the past week reported a total initial production of 16,775 barrels and another well was drilling below 10,000 feet.

Kettleman North Dome Association's No. 87-28J, Section 28-21-17, came in at 8375 feet, with nine-inch casing cemented at 7318 feet. The well made 10,775 barrels of 35.5 gravity oil, 118 barrels of water and 10,188,000 cubic feet of gas.

Standard Oil Company's No. 45-1P, Section 1-22-17, was completed at 8180 feet for 6000 barrels of 37 gravity oil and 8,700,000 cubic feet of gas. Seven-inch casing was cemented at 7110 feet.

Kettleman North Dome Association's No. 56-8Q, Section 8-22-18, edge test, was drilling in shale at 10,004 feet. A string of 13⅝-inch casing was cemented at 6847 feet. Most of the last footage made was hard gray sand.

Superior Oil Company's Huffman 8 has been killed and the seven-inch pipe will be reperforated before the well is again placed on production.

Deep Potrero Test Not Showing Favorably

Los Angeles.—The pioneer usually gets most of the hard luck, and this is true for the drillers of the deep test in the old Potrero field in Los Angeles County. Wilshire Annex Oil Company's Potrero Club 2, drilled to 7917 feet, with 9⅝-inch cemented at 6620 feet, flowed around 2000 barrels of water and a scum of oil. Cores were most encouraging, but they are having a hard time to make an oil well.

Before swabbing started, 2½-inch tubing was run to 6500 feet. Flow was steady for several hours and finally dropped to 750-barrel rate. Some gas was shown. Further swabbing increased the gas.

Top of the Miocene was found in the well at 7450 feet. Last cores ran mostly shale except near bottom, which ran hard sand, so low in porosity that the oil content must of necessity be low. There is considerable mud in the bottom of the hole.

Old Wells Abandoned

Los Angeles. — Republic Petroleum Corporation gave notice last week of the abandonment of eight old producing wells in the Newhall field. These were small pumpers. Gilmore Oil Company has also abandoned two old producers in Cat Canyon.

Five Percent Prorate Reestablished in Michigan

Mt. Pleasant, Mich.—The State Proration Committee will restore the five percent prorate schedule with a 75-barrel base allowable in September, it was announced this week. During August the prorate has been at two percent for all production above 75 barrels a day.

At the same time, it was learned, the committee plans to scale down the Porter pool potential approximately 25 percent under its August rating of 165,881 barrels potential daily.

The proposed changes, however, will not actually materially effect the runs of the past two months which have averaged less than 30,000 barrels a day. Having under-run the federal allocation for several months, the state now has "credits" which will permit running of practically the same amount of oil as in July and August, it was pointed out.

Failures Outnumber Producers in Michigan

Mt. Pleasant, Mich.—Wittmer Oil Company will abandon Archer 1, Isabella County, Isabella township, Section 11, after encountering black water at 4297 feet, with 4321 feet bottom hole. The test originally was charted for the Dundee horizon but failed to produce in that formation in paying quantities. Operators decided to abandon deeper drilling when formations did not appear favorable to lower production.

Five other failures, all on wildcat locations, were reported in Michigan this week with but four oil completions in proven districts.

Completions follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
MIDLAND COUNTY—		
McClanahan Oil Co., Hathaway 4, Porter twp, nw sw ne sec 17.....	425	3422
Wells Bros., Town Hall 1, Porter twp, se se se sec 16	100	3396
Strange Oil & Gas Co., Walley 7, Porter twp, nw se se sec 16.....	45	3414
L. G. Thompson's Shirts 1, Greendale twp, sw ne sw sec 17	20	3588
ISABELLA COUNTY—		
Wittmer Oil Co., Archer 1, Isabella twp, w½ se sec 11	*	4321
MONTCALM COUNTY—		
Atha Oil Co., Davenport 1, Ferris twp, c se ne sec 16	*	3408
MECOSTA COUNTY—		
Columbia Oil Co., Hutchinson 1, Hinton twp, sw sw sec 14	*	1570
LAPEER COUNTY—		
Lawrence Mytinger, Zimmer 1, Oregon twp, nw sw se sec 4	*	1438
ARENAC COUNTY—		
Oil State Corp., Sheffer 1, Mason twp, ne sw se sec 18	*	2825
NEWAYGO COUNTY—		
Muskegon Dev., Kolbe 1, Beaver twp, nw sw se sec 31	*	1100

*Failures; †Junked; ¶Million cu. ft. gas.

Two Michigan Wildcats Encountered Gas Flows

Mt. Pleasant, Mich.—Gas strikes on two wildcat tests in Mecosta County the past week are expected to lead to winder exploration this fall on the west side of Central Michigan. Hall-La-Mee Syndicate's Oliver 1, Martiny township, NE NW, Section 23, had an estimated 500,000 to 1,000,000 cubic foot flow from Michigan Stray Sand at 1363 feet. Drilling was suspended for further orders when the bit started to salt up indicating water in the bottom of the pay.

Oliver 1 is located approximately seven miles northeast of the Austin township gas wells and is the farthest

north commercial gas has been encountered in Mecosta County.

Bryan and Martin's Sheets 1, Mecosta County, Millbrook township, NW SE NW, Section 35, gauged 2,112,000 cubic feet from 1327-36 feet, where drilling was suspended for orders. A new structure condition developed on this test. At 1317 feet the test made an estimated 200,000 feet of sour gas, from what was believed the Michigan Stray sand, the formation from which Central Michigan dry gas wells are producing. The so called stray sand is a worked over Upper Marshall, laid down in the basins of the main structures. The test drilled out of the gas strata at 1319 feet and went into Red Sand carrying shale, which was pronounced Red Rock, which ordinarily occurs at the base of the Marshall. The Upper Marshall or White Marshall sand appeared to have been completely eroded out.

Drilling continued and at 1328 feet the sand lightened up and started to make gas. It was bottom-holed at 1336 feet and gauged 2,112,000 cubic feet. Operators were undecided whether the test is producing from the Marshall or the Michigan Stray. The Marshall has not been a commercial producing formation in Michigan although on isolated tests it has carried some oil and gas.

Cannot Drill on Michigan Cemetery

Mt. Pleasant, Mich.—A circuit court decree cancelling an oil and gas lease on the Vernon township cemetery (Isabella County) and permanently restraining drilling on the cemetery was handed down this week by Judge Glenn Gillespie of Pontiac. Suit was brought by five Vernon township residents in March of this year against John Vale and J. D. Wilson of Detroit, who had leased the cemetery, to prevent their drilling on it. A rig had been partly completed when operations were stopped by injunction.

Judge Gillespie held that "So far as I have been able to discover no authority has ever been granted by statute to either a township board or a township board of health, to sell or lease any portion of a township cemetery, and in absence of such authority the lease in question cannot be sustained."

The court added, "The time has not come in our mad scramble for wealth and riches, when public authorities will be permitted to devote our burial grounds to any commercial use, even though it may result in a profit so to do."

This marked the first attempt in Michigan to drill on cemetery property and was the first court decision. The defendants Vale and Wilson said they would appeal to the state supreme court.

The Vernon cemetery (four acres) is located in Section 23 in virtually the heart of the Vernon oil field.

New Michigan Refinery Planned

Mt. Pleasant, Mich.—Walter L. McClanahan, president of McClanahan Oil Company, announced this week the organization of the McClanahan Refining Company, and the beginning of construction of a 1000-1500 barrel plant in September. The location has been tentatively fixed at Wheeler, Michigan, 10 miles south of the Porter pool where the bulk of the McClanahan production is located.

Incorporation papers were filed with the state August 28, 1934.

Surveying for the construction of a casing-head gas plant in the Porter field also has been started by a group of leading producers. The plant, for which definite details are lacking, will according to reports be a cooperative unit. The extracted dry gas probably will be sold to the Dow Chemical Company plant in Midland, Michigan, it was said.

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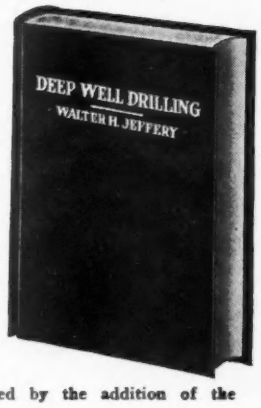

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Drilling Reports on Important Wildcats

OKLAHOMA

ALFALFA COUNTY—Tex-O-Kan Development's Acre 1, csw ne 14-24n-11w (owdd) sd.

ATOKA COUNTY—Brookshire et al's Rowland 1, nw ne ne 18-3s-10e, sd 3698 ft. T. C. Ramler et al's William Roberts 1, sw se sw 6-2s-12e, dr 780 ft. T. A. Edgerly's Donham 1, se nw 26-1n-15e, sd.

BECKHAM COUNTY—Price & Watchorn's Heard 1, ne sw 17-8n-26w, sg 2005 ft, so&g 2026-48 ft, dr 2060 ft.

CADDO COUNTY—Denver P. & R. Co.'s Noe 1, nw sw sw 34-10n-10w, sd.

CARTER COUNTY—Hudson & Poland's Sullivan 1, ne se 5-5s-1w, dr 4050 ft. McHenry et al's Ratliff 1-A, nw sw 28-1s-2w, pumped 6 bbls oil, completed. Carter Oil Co.'s Bonner 1, sw se se 19-3s-2w, ru.

CLEVELAND COUNTY—Phillips Petroleum Co. et al's Community-Baker 1, cse nw 11-9n-2w, dr on iron. Mid-Continent Oil et al's Collett 1, ne sw 35-10n-1w, rig. Anderson-Kerr et al's Wilson 1, nw se 27-10n-1e, spd.

COAL COUNTY—J. D. Petty Oil Co.'s McMillan 1, sw nw ne 16-1s-8e, dr 225 ft.

COMANCHE COUNTY—F. F. Stevens' Green 1, se sw 2-1n-13w, sd 1210 ft. Heiden-Taylor's Crutcher 1, cnw 11-1n-12w, dr 804 ft.

GRADY COUNTY—Western Oil, Inc., Carter 1, nw ne se 32-3n-7w, td 3358 ft, D&A.

GRANT COUNTY—W. Earl Witt et al's Patton 1, sw se 19-29n-3w, rig & mit.

HARPER COUNTY—Sinclair Prairie's Neff 1, nw se 21-26n-24w, dr 2790 ft.

HUGHES COUNTY—Olympic Oil Co.'s McCaslin 1-A, se nw nw 12-9n-8e, flowed 347 bbls oil, completed. Smith et al's Farmer 1, ne nw 32-5n-9e, hfw 900 ft. Turner et al's Williams 1, sw sw sw 35-7n-10e, rig.

JACKSON COUNTY—Gypsy Oil Co.'s 1-A (twin) ne ne ne 1-1n-20w, dr 1382 ft. Ben Russell's Butler 1, nw se 30-1n-22w, td 2500 ft, repairing boilers. Gypsy Oil Co.'s Stokes 1, se nw sw 11-1n-20w, dr 1393 ft.

KAY COUNTY—Helmerich-Payne's Crouse 1, cne sw 29-25n-1w, rig.

KINGFISHER COUNTY—Jadeka Development Co.'s Frakes 1, csw ne sw 16-15n-6w, sd.

KIOWA COUNTY—McWhirter et al's Vanderneck 1, ne nw 3-7n-19w, (owdd) fsg.

LATIMER COUNTY—Leflore Gas & Electric Co.'s James 1, cwl se sw sw 11-6n-21e, dr 520 ft.

LEFLORE COUNTY—East Oklahoma O. & G. Co.'s Metcalf 1, swc 2-4n-26e, sd 1603 ft.

LINCOLN COUNTY—L. G. Hulse's Sloan 1, sw nw se 19-17n-3e, sd 885 ft. Texas Co.'s Gessman 1, se ne 33-14n-4e, recemented 500 sacks, wocs. Mid-Continental Co.'s Bolby 1, cse sw 27-12n-2e, dr 3313 ft.

LOGAN COUNTY—W. N. Anthony's Fruin-Eckman 1, se sw 4-16n-1e, sd. Gypsy Oil & Sinclair Prairie's Manning 1, cnw nw 3-17n-4w, dr 3991 ft.

MARSHALL COUNTY—Nunn & Stinnett's Lindecker 1, nwc 7-8s-6e, sd 610 ft.

McCLAIN COUNTY—Benedum & Trees' James 1, se nw sw 10-5n-3e, rig.

MURRAY COUNTY—T. E. Revels et al's Wolfe 1, nec 18-1n-2e, sd 2600 ft. Gilcrease Oil Co.'s Brown 1, swc 26-1n-2e, fsg 1742 ft. Ed Galt et al's Aetna Life Insurance 1, se nw nw nw 14-2s-3e, sg 640 ft, dr 650 ft.

NOBLE COUNTY—Continental Oil Co.'s Bennett 1, se nw 17-21n-1w, td 5232 ft, D & A. Vaughn Development Co.'s Loula 1, ne se sw 16-22n-1e, dr 4517 ft.

OSAGE COUNTY—Empire Oil & Refining Co.'s 1, se ne 3-25n-3e, set 8-inch csg 3350 ft to test Cleveland sand. Norbla Oil et al's 1, se nw 19-25n-7e, spd.

PITTSBURGH COUNTY—Arkoma's Cummings 1, nw ne se 29-4n-14e, fsg bit 1490 ft.

PONTOTOC COUNTY—Jarrett Petroleum's Johnson 1, se nw 28-9n-4e, sd 1269 ft. Gillette & Kroeger's Duver 1, ne se 1-1n-6e, dr 550 ft. J. D. Sledge & Jack Lynch's Thompson 1-A (twin), sw ne sw 1-1n-7e, cellar.

POTTAWATOMIE COUNTY—Stanolind O. & G. Co. and Amerada Petroleum Co.'s Goodman 1, se ne ne 5-10n-4e, swabbed and flowed 334 bbls oil 14 hrs plus 60 bbls water. Phillips Gypsy et al's Flynn 1, ne nw 17-6n-3e, 7-in csg cemented, td 4412 ft.

SEMINOLE COUNTY — Wrightsman Oil Co.'s Smith 1, nw se 25-10n-7e, rust. Moran et al's Brindle 1, sw ne 27-6n-5e, sd 1360 ft. W. D. Grisso et al's Kenyon 1-A, cne se 24-8n-4e, rig. Harman Oil Co.'s Bowlegs 1, se ne sw 1-7n-7e, td 1655 ft, to abd. Harris-Haun's Harjo 1, ne se nw 11-6n-6e, (owdd) fsg tools 2139 ft. Tate & Starbuck's Heard 1-A, se nw 9-6n-7e, dr 690 ft.

STEPHENS COUNTY—Carter Oil Co.'s T. H. McCasland 1, cnw nw sw 22-1s-4w, ru. Finley et al's Woolsey 1, nw se 10-3s-6w, sg 325-27 ft, ur 10-in csg.

WASHITA COUNTY—Oklahoma Mid-Western's Dock 1, swc 21-8n-18w, fsg bit 2430 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completion and wildcat reports in THE OIL WEEKLY.

* —*dry hole, abandoned well.*	owdd —*old well drilling deeper.*
‡ —*salt water (completions).*	owpb —*old well plugging back.*
† —*junked and abandoned.*	pb —*plugged back or plugging back.*
¶ —*million feet of gas.*	r —*reaming.*
abd —*abandoned.*	rog —*rig on the ground.*
bbls —*barrels.*	rur —*rigging up rotary tools.*
br —*building rig.*	rust —*rigging up standard tools.*
b.s. —*basic sediment.*	sd —*shut down.*
csg —*casing.*	sdtr —*sidetracking.*
co —*cleaning out.*	sg —*show gas.*
dd —*drilling deeper.*	si —*shut in.*
dk —*derrick.*	so —*show oil.*
dr —*drilling.*	so & g —*show oil and gas.*
fsg —*fishing.*	spd —*spudding.*
ft —*feet.*	sr —*straight reaming.*
hfw —*hole full of water.*	sw —*salt water.*
in —*inches.*	td —*total depth.*
lcn —*location.*	ur —*underreaming.*
m —*milling.*	wih —*water in the hole.*
mim —*moving in materials.*	wo —*workover.*
mit —*moving in tools.*	wocs —*waiting on cement to set.*
mot —*milling on tools.*	wosr —*waiting on standard rig.*
n, s, e, w, —*north, south, east, west.*	
oih —*oil in hole.*	

SEDGWICK COUNTY—Trees Oil Co. & Derby Oil Co. et al's McMinn 1, nw sw ne 36-26s-1e, set 6-in csg 2610 ft, dr 2910 ft. Sovereign Oil Co.'s Nichols 1, cnw se 20-25s-1w, set 5-in csg 2855 ft, hfw 2896 ft, D & A. Jones, Kirk et al's McQuillan 1, ne nw ne 21-29s-2w, dr 2490 ft. Gypsy Oil Co. & Buell's Tammany 1, nw ne 4-29s-1w, ru. Allison & Fitzwilliams' Struthers 1, ne sw sw 34-28s-2w, cellar. Lassen et al's Wall 1, se sw ne 4-28s-1e, (owdd) co.

SUMMER COUNTY—Morgan & Flynn's Mercer 1, nw ne nw 36-32s-1w, dr 3800 ft. Wentz & Continental's Small 1, nw sw 5-33s-4w, dr 3480 ft. Wentz et al's Horsley 1, csl sw sw sw 18-35s-1e, mit.

TREGO COUNTY—Alma Petroleum Co. et al's Rhodes Estate 1, csw sw 14-11s-23w, pb to 3595 ft, 2000 gals acid, swabbed 35 bbls oil, dd 3604 ft. Mid-Kansas Oil Co.'s Kline 1, sw se 19-14s-24w, dr 2790 ft.

KANSAS

BARBER COUNTY—Lario et al's Whelan 1, cnw 32-31s-11w, recementing. I. T. I. O. et al's George 1, cse sw 12-33s-10w, coring 4786 ft, no shows.

BARTON COUNTY—Atlantic Oil Production Co.'s Straub 1, cse nw 36-18s-11w, td 3313 ft, completed. Harris-Haun & J. Brouk's Dietz 1, se se se 21-16s-15w, set 8-in csg 2945 ft, dr 3337 ft. Atlantic Oil Co.'s Vaniman 1, cse ne 15-20s-12w, dr 1750 ft. Gypsy, Atlantic & Shell's Batchman 1, csw ne 18-20s-11w, dr 1650 ft. National Refining Co.'s Ingersoll 1, cne ne 2-19s-13w, td 2180 ft, pulled in rig, rebuilding. Murphin & Downing's Lanterman 1, nw se 15-19s-11w, ru. C. L. Price et al's Ehrlick 1, nw se 10-16s-13w, rig.

CLAY COUNTY—Seidel Brothers' Younker 1, cs½ se nw 21-9s-4e, sd 1225 ft.

COWLEY COUNTY—National Refining Co.'s Robinson 1, ne se ne 11-34s-4e, fsg 1895 ft. Ostat et al's Eckhardt 1, se se ne 5-35s-6e, sd. Wakefield's Weigle 1, se se 6-32s-6e, sd.

DICKINSON COUNTY—Dutch Oil Co.'s Phillips 1, cne nw 15-15s-1e, set 8-in csg 2300 ft, dr 2325 ft.

ELLSWORTH COUNTY—Elwell et al's Campbell 1, swc 20-17s-7w, set 10-in csg 2211 ft, dr 2505 ft.

GREENWOOD COUNTY—Greeley et al's Salter 1, sw se sw 28-25s-12e, sd 335 ft.

HARPER COUNTY—Wood Brothers' Anthony 1, csw sw 17-31s-9w, rust.

HARVEY COUNTY—Hollow et al's Summerfelt 1, nw ne nw 8-22s-1w, set 8-in csg 2968 ft, sw 2984-96 ft, dr 3001 ft.

KINGMAN COUNTY—W. C. McBride's Wooleridge 1, nw ne 16-27s-7w, set 8-in csg 3145 ft, hfw 3265-85 ft, dr 3345 ft.

McPHERSON COUNTY—Palmer & Phillips' Moddelmog 1, ne ne nw 8-21s-1w, set 13-in csg 1515 ft, dr 2005 ft. Marileen O. & G. Co. and Goering Brothers' Decker 1, nw se 20-18s-1w, dr 2875 ft. Stark & Well's Smith 1, nwc 13-19s-3w, lcn.

RENO COUNTY—Sinclair Prairie Oil Co.'s Shepherd 1, se nw 22-26s-9w, pb to 4109 ft. L. H. Wentz' Metcalf 1, se ne sw 2-34s-7w, set 6-in csg 3695 ft, hfw 3697 ft, dr 3811 ft. Hartman Oil Co. et al's Stone 1, cnw nw 15-24s-4w, dr 2970 ft. F. H. Unruh's Joseph 1-A, se sw nw 18-25s-4e, lcn.

RICE COUNTY—Robertson et al's Johnson 1, nw sw 22-19s-8w, hfw 2800-27 ft, set 8-in csg 2892 ft, dr 2930 ft. Deitrick et al's Fitzpatrick 1, cne ne 30-21s-8w, set 6-in csg 2846 ft, td 3020 ft, ur 6-in csg. Elwell et al's Porter 1, ne nw 5-18s-7w, set 10-in csg 2176 ft, dr 2620 ft. Gypsy Oil Co.'s Gibson 1, sw nw ne 4-21s-10w, dr 2669 ft. Darby et al's Taylor 1, nw se sw 25-19s-8w, set 10-in csg 2615 ft, dr 2650 ft. Yingling et al's Maupin 1, nw sw sw 1-18s-8w, dr 885 ft.

ROOKS COUNTY—Ashby et al's Doughty 1, csw sw 15-8s-19w, set 6-in csg 3165 ft, 1700 ft oih, swabbed 3 bbls per hr.

RUSH COUNTY — Schlegel & Turner's Schmidt 1, csw se 10-17s-16w, cellar.

RUSSELL COUNTY—Lario Oil & Gas Co.'s Neidenthal 1, nec 23-14s-15w, set 6-in csg 3020 ft, so 3038 ft, sw 3067-72 ft, so 3150-55 ft, dr 3167 ft. Eldorado Refining Co.'s Stratman 1, sw se se 32-14s-11w, rig.

CALIFORNIA

KERN COUNTY

BLACKWELL'S CORNER—Amerada Pet. Corp.'s Beer 1, 17-26-19, rur.

BUENA VISTA HILLS—E. C. Arnold's No. 1, 34-31-24, dr blue shale, 4800 ft.

COMANCHE POINT—Comanche Oil Co.'s No. 1, 15-32-29, sd 4325 ft. Tejon Ridge Oil Co.'s No. 1, 23-32-29, sd 650 ft.

LOST HILLS—Associated Oil Co.'s Williamson 1, 2-26-20, plugged to 6850 ft, td 7856 ft, sd.

McFARLAND—Home Corp.'s Jessup et al 1, 16-26-27, bldg rig.

McKITTRICK—Standard Oil Co.'s No. 45, 15-30-22, dr sand and shale 3728 ft. Welport Oil Co.'s No. 106, 26-29-21, dr shale 300 ft.

MT. POSO—Associated Oil Co.'s Fortine 1, 30-27-28, rigged up. Ohio Oil Co.'s Brown 1, 22-27-27, rig.

NO. SEMITROPIC — S. T. Alexander's Shields 1, 29-25-21, sd 1426 ft.

PIONEER ANTICLINE—Fisher & Welton's Harris 1, 35-11-25, sd 1156 ft.

TEMBLOR HILLS—Robt. Foster's No. 1, 2-32-22, dr shale 1200 ft.

WHEELER RIDGE—Badger Oil Co.'s El Tejon 1, 31-1-19, sd 6001 ft.

KINGS COUNTY

ALPAUGH—Trico Oil & Gas Co.'s Magee and Stone 1, 33-24-22, sd 3717 ft. Magee & Stone 2, 3-25-23, rur.

AVENAL—Carl Weller's Baby King 2, 11-23-16, sd 1425 ft. Will drop from report.

TULARE LAKE DISTRICT—All wells in this area have been idle some time and will drop from report until they are active again.

TULARE COUNTY

ALPAUGH—Mastodon Oil Co.'s No. 1, 27-24-23, rur.

MADERA COUNTY

DOS PALOS—Pure Oil Co.'s Chowchilla 1, 7-10-14, dr sand and shale 6426 ft.

SAN JOAQUIN COUNTY

TRACY—Milham Exploration Co.'s Moy 1, 24-3-4, to spud.

YOLO COUNTY

GUINDA—Pacific Northern Gas & Oil Co.'s No. 1, 23-12-3, sd 6770 ft.

SANTA BARBARA COUNTY

CUYAMA VALLEY—Geo. Leingang's No. 1, 32-10-25, rig. Will drop until work starts.

GOLETA—North American Oil Cons. Co.'s Pinkham 1, 10-4-28, dr shale 2105 ft. Hastain Stone's Simonds-Campbell 1, 9-4-28, sd 2785 ft.

LOMPOC—Lompoc Pet. Co.'s Beauterbaugh 1, 18-7-34, was fsh dr pipe. Now idle 2975 ft.

LOS ALAMOS—Petroleum Securities Co.'s Hancock-Los Alamos 1, 31-8-32, dr gray shale 2220 ft.

SISQUOC — Royalties Service Corp.'s Sisquoc 1, 35-9-32, dr shale 960 ft.

SAN LUIS OBISPO COUNTY

CHOLAME—Willett Oil Assn's Jack 2, 10-25-15, repairing water well, 2260 ft.

TEMBLOR HILLS—Midway Peak Oil Co.'s No. 1, 3-32-22, hard shale 1575 ft.

VENTURA COUNTY

HOPPER CANYON—Commander Oil Co.'s No. 6-F, 13-4-19, sd. Will drop from report. Hancock Oil Co.'s Hadley 5, 12-17-28, co 3357 ft. Oak Ridge Oil Co.'s Moran 3, 1-4-19, dr shale 1080 ft.

LAS POSAS—Las Posas Pet. Co.'s Mahan 1, 22-3-20, fsh dr pipe, td 7370 ft.

OJAI—A. N. Macrate's Cosmon 1, 27-4-23, sd 5526 ft. Ranch Oils' Rancho Santa Ana 1, 18-4-23, dr shale 375 ft.

PIRU—Bolsa Chica Oil Corp.'s Snow 1-A, 4-4-18, did not deepen. Open hole test made 250 bbls, 23 gravity oil, td 2497 ft. Piru Oil Co.'s Holser 1, 14-4-18, dr shale 1035 ft.

RINCON—Woodrow Pet. Corp.'s Woodrow 1, co td 7615 ft, redr to 5490 ft.

SANTA PAULA—J. W. Mosher's No. 1, 22-4-21, dr shale 2290 ft so.

SESPE—H. A. Ivers' No. 11, 1-4-20, sd 1475 ft. Merchants Pet. Co.'s Cochran 4, 1-4-20, td 1280 ft, redr 930 ft. Sullivan & Roberts' No. 1, 28-5-19, td 804 ft. 7⅝ cemented 475 ft, bailing. Topa Topa Oil Co.'s No. 1, 35-5-19, sd 3030 ft.

SHIELDS CANYON—The Texas Co.'s No. 128, 4-3-19, dr red shale 2920 ft.

SIMI—American Drilling Co.'s No. 1, 6-2-17, dr shale 890 ft. C. L. Anderson's No. 13, 36-3-18, running tubing for open hole test, td 1862 ft. Dawson Oil Co.'s No. 1, 8-2-17, spud 8-18. Williamson & Danaker's No. 1, 36-3-18, sd 1010 ft.

SULPHUR MOUNTAIN—Wm. A. Kirk's No. 5, 21-4-22, dr brown shale, so 2300 ft.

MISCELLANEOUS

FRESNO COUNTY—G. & E. Dev. Co.'s No. 1, 36-16-14, rigged. Bergman Oil Co.'s Oro Loma 1, 12-12-11, td 6006 ft. Sdtr dr pipe 5212 ft. Russ Oil Syndicate's No. 1, 28-12-11, dr shale 4250 ft. Western Gulf Oil Co.'s S. P. L. 1, 11-17-15, td 1225 ft, wocs 16-inch on bottom.

SOUTHERN CALIFORNIA

ARTESIA DIST.—Vanco Dev. Co.'s Millard 1, 25-3-12, rig.

ATHENS DIST.—Woodward Oil Co.'s No. 1, 12-3-14, ran formation tester, dr pipe stuck, td 5541 ft.

BREA CANYON—Pressel-Perry-Tull's Baird 1, 30-2-9, dr hard shale 3320 ft.

CARBON CANYON—Tehema Pet. Corp.'s Kramer 1, 33-2-8, dr shale 2340 ft.

EAST RICHFIELD—Midrich Drilling Co.'s Vejar 1, 26-3-9, dr shale 3294 ft.

FULLERTON—Union Oil Co.'s Fullerton Heights 1, 22-3-10, dr hard sand 6030 ft, no showings.

HERMOSA BEACH—Aron H. Hover's Bryant 1, 31-3-14, dr sandy shale, so 2020 ft.

HUNTINGTON BEACH on tidelands — Black Eagle Oil Co.'s No. 1-8, permit 194, redr 1790 ft, td 3987 ft.

NEWPORT—Platt & Collins' No. 1, 14-6-10, dr shale 2462 ft. Pioneer Drilling Co.'s Banning 3, 29-6-10, sd 6452 ft.

NORTH LONG BEACH—Geo. L. Clayton's No. 1, 31-3-12, dr pipe froze, td 6750 ft.

PICO—Frontier Oil Co.'s No. 1, 12-2-12, td 1460 ft, wocs 12½ at 500 ft.

PUENTE—N. O. Shively's Roland 1, 23-2-10, foundation.

SAUGUS—International Oil Dev. Co.'s Powell 1, 34-5-16, dr hard sand 2937 ft.

SURF—W. G. Bradford's B. B. 1, 19-6-10, rig.

DEL REY HILLS—Chas. W. Fourl's Fourl 1, 27-2-15, rur.

WEST WHITTIER — Midfield Oil Co.'s Walker 1, 19-2-11, sd 4867 ft.

SAN BERNARDINO COUNTY — Great American Pet. Co.'s Gapco B-1, 18-2-8, dr hard shale 3167 ft. Gapco D-1, rur. Carl E. Braley's Davis L, 22-3-6, rig.

No reports from two wells in San Diego County.

NEW MEXICO

CHAVES COUNTY — Roswell Insurance Surety Co's Franks 1, ne se 30-11-25, Pomeroy anticline, dr 310 ft.

SAN JUAN COUNTY—W. R. Webb's State 1, nw 6-30n-11w, ru.

SANTA FE COUNTY—Fisher & Wolcott's Hill 1, sw 6-10n-6e, dr 2000 ft.

TORRENCE COUNTY — Bruce Frazier et al's Frazier 1, cse sw 20-21s-13e, dr 424 ft.

SAN MIGUEL COUNTY — Cabra Springs Oil & Gas Co's Cabra Springs 1, ne se 22-12n-22e, dr 3803 ft, carrying 6⅝-in csg.

COLORADO

ADAMS COUNTY—Riddle Petroleum Co's Baxter 1-C, sw 2-3s-66w, rigging up.

ARCHULETA COUNTY—Oil City Petroleum Co's Garnett 2, ne sw 25-33n-2e, dr 230 ft.

GRAND COUNTY—Colorado Oil Refining Co's Linke 1, ne sw sw 13-1n-77w, dr 1100 ft.

LAS ANIMAS COUNTY—Mountain States Oil Corporation's Nickola 1, ne se 10-34s-62w, running 8¼-in csg 1740 ft.

MONTEZUMA COUNTY—Coon & Teague's (McElmo Oil Co.) West 1, ne nw ne 31-36-17, McElmo district, dr 1735 ft, and ur 6⅝-in csg.

PARK COUNTY — South Park Oil Co's State 1, se se sw 16-11s-75w, spd 48 ft.

PROWERS COUNTY—Trojan Oil & Gas Co's Lotus 1, nw ne ne 15-23s-46w, Lamat district, set 6⅝-in csg 3624 ft.

MONTANA

PONDERA COUNTY—E. K. Cheadle, Jr, and Bruce Radigan's Balsinger 1, ne se nw 20-27n-5w, ur to 2365 ft for water shutoff, 1700 ft of water in hole.

STILLWATER COUNTY — Continental Oil Co's John L. Orr 1, sw nw se 18-5s-17e, Nye-Dean anticline, lcn.

TETON COUNTY—C. L. Smith's Smith 1, sw sw 14-22n-2e, Benton Lake structure, mim.

TOOLE COUNTY—J. H. Hamilton's Northern Farms 1, se nw 10-37n-5w, resuming at 1300 ft.

WYOMING

ALBANY COUNTY—Ohio Oil Co's Chappell 1, cse nw 28-21n-76w, dr 4817 ft.

CARBON COUNTY—Earl W. Reader, Inc's Union Pacific 1, csw sw 19-20n-83w, ur 4¾-in csg to bottom at 5300 ft. Ohio Oil Co's Sid Morris 1, nw se 6-20n-77w, sd 2640 ft.

CONVERSE COUNTY—John Ackard's Daniels 1, sw se 17-32n-71w, sd 1000 ft. R. J. Dilger's Government 1, se ne sw 33-31n-72w, Poison Lake structure, dr 500 ft.

FREMONT COUNTY—Monongahela Oil Co.

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and Sidney H. Keoughan's Wisda 1, ne se se 13-28n-92w, sd 2780 ft. Monongahela Oil Co. and Sidney H. Keoughan Jones 1-A, nw 7-28n-92w, Spring Creek structure, spd. Mid-American Oil Co's Government 1, cse sw 4-38n-92w, Sheep Creek structure, dr 1630 ft.

HOT SPRINGS—California Exploration Co's Government 1, ne se ne 12-44n-97w, dr 2410 ft.

SHERIDAN COUNTY—Sheridan Syndicate's Allison 1-A, sw se 15-55n-85w, dr 2090 ft.

SWEETWATER COUNTY—Wellington Oil Co's Test 2, 24-23n-96w, Wamsutter anticline, lcn.

WESTON COUNTY — LaFaive Oil Syndicate's Test 1, nw se 29-45n-68w, ur 12-in csg 2000 ft.

WEST TEXAS

ANDREWS COUNTY—Roland S. Bond et al's W. D. McCarley 1, Sec 29, Blk 3, sp. Honolulu Oil Co.-Llano Oil Co.'s J. E. Parker 1, Sec 7, Blk A-44, elev 3194 ft, top anhydrite 1930 ft; dr 4120 ft. Humble O&R Co.'s J. S. Means 1, Sec 2, Blk A-35, cem cas 347 ft; R. M. Means 2, lcn; B. S. Walker 1, Sec 6, Blk A-43, dr 1130 ft.

BREWSTER COUNTY—C. M. "Dad" Joiner et al's W. J. McIntyre 1, sd 2100 ft.

COKE COUNTY—W. Monroe Hooper et al's S. W. Gaston 1, sd 2550 ft.

CRANE COUNTY—Gulf Prod. Co.'s E. N. Snodgrass 1, Sec 1, Blk B-25, Waddell area, top salt 1195 ft, flows 19 bbls co after shot, td 3500 ft.

CULBERSON COUNTY — Anderson-Prichard Prod. Corp's H. A. Borders 1, Sec 34, Blk 69, fsh 423 ft.

DAWSON COUNTY—Ray A. Albaugh et al's John Robinson 1, elev 3078 ft, top salt 1970 ft; top lime 2885 ft; sd 2940 ft.

ECTOR COUNTY—Landreth Prod. Corp. et al's Clarence Scharbauer 1, Sec 20, Blk 44, T&P Ry sur, T-1-N, elev 3165 ft, top salt 1465 ft; top Yates sand 2652 ft; top lime 3710 ft; sd 3765 ft.

EL PASO COUNTY—Mesa O&G Co.'s Coronada Realty Co. 1, Sec 214, so 575-85 ft; sw at 880 ft; so 900 ft, sd 1000 ft for cas.

FISHER COUNTY—Hoffman & Page Co. et al's R. L. Milstead 1, Sec 50, Blk 1, HT&B Ry. sur, dr 2675 ft. Merry Bros. & Perini, Inc.'s R. L. Dean 1, rig.

GLASSCOCK COUNTY—Steve C. Currie & Wahlenmaier Pet. Corp's Joe Calverly-Underwood 1, Sec 24, Blk 36, T&P Ry. sur, T-4-S, elev 2697 ft, top anhydrite 1330 ft; top salt 1400 ft; top lime 2125 ft; sd 3420 ft. John I. Moore Pet. Corp-Loffland Bros. et al's L. S. McDowell 1, Sec 22, Blk 34, T-2-S, Ordovican test, elev 2534 ft, top lime 2137 ft, r at 3730 ft, td in gray lime 3866 ft. Moore Bros. et al's J. J. Hubbard-Daniel-Gulf 1, Sec 16, Blk 34, T-5-S, top anhydrite 1050 ft; top salt 1120 ft; dr 2620 ft.

HAMILTON COUNTY—Ireland O&G Co.'s Geo. L. Doyle 1, I. Adams sur, elev 1055 ft, dr 1215 ft.

JONES COUNTY—Campbell & Ellzey's J. N. Herndon 1, rig; E. J. Neville 1, co 2560 ft.

MENARD COUNTY—Jas. L. Duffy et al's W. J. Wilkinson 1, dr 270 ft.

PECOS COUNTY — Humble O&R Co.'s White-Baker 2, Sec 4, Blk 179, T. C. Ry. sur, set 12½ cas 738 ft. Tex-Mex Pet. Corp's G. W. Wallings 1, Sec 59, Blk 8, H&GN Ry sur, elev 2444 ft, top lime 2170 ft, so&g, fsh 2210 ft. Trans-Texas Oil Co's C. M. Caldwell 1, fsh 1100 ft.

PRESIDIO COUNTY — Linderman Bros. Oil Corp's R. I. Bledsoe 1, Sec 15, Blk 351, GC&SF Ry. sur, sd 507 ft.

REAGAN COUNTY—E. P. Kirschner et al's W. H. White-McIntosh 1, top lime 2809 ft, sd 3165 ft. Skelly Oil Co. et al's University-Utah 1-D, Sec 33, Blk 8, Ordovician test, sd 530 ft. J. P. Williams et al's J. R. Scott-Atlantic 1, elev 2587 ft, top salt 1150 ft, sd 2725 ft.

REEVES COUNTY—J. E. Cunningham & A. R. Eppenauer Drl. Co's Tiller Bros. 1, R. P. Altman sur, ur 600 ft. Grisham-Hunter Corp. et al's Fee 1-A, dr 4770 ft. Hugo Freels Oil Co's I. B. Greenman 1, sd 3985 ft.

RUNNELS COUNTY—Blaylock Co's T. J. McGaughan 1, T. M. Fowler sur No. 444, Lot No. 14, machine. Daniels et al's W. F. James 1, sd 1410 ft. Melrose Oil Co.'s Mrs. L. P. Wood 1, sd 1430 ft.

SCHLEICHER COUNTY—J. M. Cooper et al's Bert Page 1, Sec 40, Blk "L", GH&SA Ry. sur, Ordovician test, elev 2270 ft, 1st gas 5337 ft, sd 5635 ft. Humble O&R Co's Ike Honig 1, Sec 38, Blk "M", GH&SA Ry. sur, Ordovician test, dr 990 ft.

SCURRY COUNTY—H. H. Coffield & W. S. Guthrie's A. D. Dodson 1, Sec 177, Blk 97, H&TC Ry sur, top salt 746 ft; top lime 1626 ft; so 3150-3159 ft, fsh 3200 ft. Paul C. Teas et al's B. H. Chapman 1, top salt 675 ft; top lime 1430 ft; swabbed 70 bbls oil 1st day after 2nd acid treatment, td 1734 ft.

STONEWALL COUNTY — Merry Bros. & Perini, Inc.-Humble O&R Co's C. L. Williams 1, Sec 6, Blk "C", A.B.&C. sur, dr 1720 ft.

SUTTON COUNTY—Paul C. Teas et al's C. E. Mower 1, Sec 39, Blk 5, TW&NG Ry. sur, lcn.

TAYLOR COUNTY — H. Crissman et al's Abilene fee 1, dr 955 ft. J. B. Dunigan & Bros's A. W. Ely 1, J. W. M. Page sur No. 123, dr 2115 ft.

TERRELL COUNTY — H. H. Sides-F. C. Bates et al's Bates-J. H. Phelps 1, Sec 5, Blk A-4, G. W. Turley sur, elev 2185 ft, sd 5636 ft.

UPTON COUNTY—Broderick & Calvert, Inc's Homer (La) Nat'l Bank 1, Sec 22, Blk 42, T-4-S, T&P Ry. sur, elev 2890 ft, top anhydrite 1790 ft; top salt 1825 ft; ur, td 3235 ft. Gulf Prod. Co's J. T. McElroy 103, Sec 197, Blk "F", Ordovician test, elev 2625 ft, top lime 2620 ft; top Ordovician lime sec 10,167 ft; dr 10,730 ft.

WARD COUNTY—Byrd-Frost, Inc et al's J. McGregor 1, lcn.

WINKLER COUNTY—D. C. Evans et al (was Liner Drl. Co.-Wilson et al's) Seth Campbell 1, Sec 2, Blk B-5, P.S.L. sur, elev 2884 ft, sd 4639 ft. R. S. Mathews et al's R. M. Evans 1, Sec 46, Blk 73, P.S.L. sur, sd 110 ft. Sayre Oil Co's J. F. Howe 1, Sec 12, Blk 26, P.S.L. sur, elev 2866 ft, top lime 2470 ft, making 20,000,000 ft dry gas, fsh 2680 ft. Sid Richardson et al's M. J. Hill 1, lcn. Skelly Oil Co's S. M. Halley 1, Sec 25, Blk B-11, P.S.L. sur, elev 2725 ft, top lime 2480 ft, good show oil 3017-31 ft; f oil by heads in sandy-lime 3105-12 ft.

EAST TEXAS WILDCATS

ANDERSON COUNTY — Byrd-Frost, Inc.-Stanolind O&G Co.'s J. T. Burrow 1 (40-ac) M. Vascue sur, Slocum area, dr shale 3880 ft. H. L. Hunt Prod. Co. et al's O. M. Dorsey (Miller-Temple) 1 (196.64-ac), S. Sanchez sur No. 2-10, Long Lake area, elev 311 ft, Pecan chalk 3664-3721 ft; Austin chalk 4761-5035 ft; top Woodbine section 5265 ft; top gas sand 5290 to 5322 ft; sw at 5348-50 ft pb to complete as gasser. J. A. Johnson et al's Mrs. M. B. Huffman 1 (105-ac), R. S. Patton sur, elev 265 ft, Pecan chalk 3055-3335 ft; dr 4650 ft. J. W. Luttes et al's C. M. McKee 1 (100-ac), W. F. Pool sur, 3 mi se of Frankston, dk.

CASS COUNTY—John R. Hadley et al's Ray Bryan 1 (80-ac), Al Latimer sur, elev 343 ft, Pacan chalk 2316-2638 ft, sd 2965 ft. Remley-Nelley & R. Kamon Group No. 1's Mrs. I. O. Savage 1 (121-ac), Mary Patterson sur, elev 351 ft, Pecan chalk 2030-2488 ft, sd 4016 ft. Eastern Texas Pet. Co.'s J. S. Baker 1 (97-ac), Jessie Walling sur, sp. H. F. Wilcox et al's S. A. Orr 1 (316-ac), G. W. Morris sur, elev 381 ft, co 3887 ft.

CHEROKEE COUNTY—Leon English & H. C. Milhoan Drlg. Co.'s O. R. Perkins 1 (80-ac), J. Montez sur, elev 416 ft, sd 2450 ft. Walter L. Goldston et al's Southern Pine Lumber Co. 1 (80-ac), N. Newton sur, Rusk pool, elev 358 ft, Pecan chalk 3985-4413 ft; top Austin chalk 4847 ft; dr chalky-shale 5065 ft. H. L. Hunt Prod. Co.'s T. R. Black 1 (50-ac), D. W. McNabb sur, Rusk pool, lcn. Jacksonville O&G Co.'s H. D. Henderson 1 (40-ac), J. Pineda sur, elev 409 ft, rig. Wm. McCulloch-Ed. Zilkey & K. Hughes' J. C. Bradford 1 (50-ac), J. Armendaris sur, sd 3930 ft. Arch Rowan-Roy Nichols-Simms Oil Co.'s C. V. Gilbreath 1 (60-ac), H. M. Brewer sur, Reklaw area, lcn. Smith-McRea et al's John M. Tipps 1 (130-ac), B. W. Heath sur, dr 3115 ft. South Gulf Oil Corp. et al's Joe Bailey-Hagelstine 1 (80-ac), L. Rhodes sur, A-724, elev 386 ft, top Pecan chalk 3109 ft, dr 4110 ft. Wm. A. Stone et al's J. J. Tullis 1 (153-ac), Wm. M. Johnson sur, lcn. T. J. Wood-R. M. Young et al's New Birmingham Dev. Co. 3 (161-ac), Levi Jordan sur, Rusk pool, lcn. Wilson-Stubbs Oil Corp.-J. C. Patty Oil Co.'s Lucy Roberts 1, J. D. Wolfin sur, elev 520 ft, sd 1540 ft.

ELLIS COUNTY—Beckner & Findley's Coke 1, R. de la Pena 11 League Grant, sp and sd.

FREESTONE COUNTY—Walter M. Buress et al's J. B. H. Orand 1 (50-ac), W. M. C. Jones sur, 1¾ mi n Fairfield, sp and sd. Clyde Creighton et al's W. A. Holley 1 (80-ac), A.B.&M. sur, elev 399 ft, dr 5815 ft. Haley & Young's G. Cochran 1 (100-ac), D. Bullock sur, 1 mi se of Luna, lcn. Walter L. Goldston et al's E.M.&C.H. Watson 1, R. D. Price sur, lcn. J. E. Milburn & J. B. Patty's S. E. McAshan 1 (40-ac), S. G. Diaz sur, Blk. 178, sp and sd. E. L. Smith Oil Co. & W. A. Reiter's E. J. Barker 1, A. G. Smith sur, A-731, 13 mi s of Fairfield, rig.

HENDERSON COUNTY—American-Liberty Oil Co.'s W. L. McWilliams 1 (140-ac), Reese V. Morrell sur, 10 mi n of Athens, elev 552 ft, Pecan chalk 2552-2713 ft; Austin chalk 3591-4055 ft, dr 4215 ft. Great State Oil Corp (Dick Andrade, III's) R. Sid Ansley 1, N. B. Thompson sur, dr 2280 ft. J. C. Crosby & Culp's M. T. Dodd 1, Geo. Aldrich sur, 4 mi e of Malakoff, elev 376 ft Pecan chalk 2390-2504 ft; dr 2600 ft.

HOPKINS COUNTY—D. A. Hale et al's L. M. Hall 1 (70-ac), A. Caro sur, A-143, elev 506 ft, sd 640 ft. Hill & Hill, Inc's J. W. Jones 1, Jasper Williams sur, near Cornersville, lcn.

HOUSTON COUNTY—Boone et al's Trinity State Bank 1 (142-ac), Chas. McEllis sur, elev 298 ft, top Weches 1623 ft; top Reklaw 1790 ft; testing show 23.2 gravity oil in Carrizo sand 2019-2036 ft.

HUNT COUNTY — G. S. & S. Oil Co.'s Oscar Popper 1, Jas. Moore sur No. 544, top Gober chalk 900 ft, dr 2310 ft. J. C. Hall et al's A. B. Parrish 1 (100-ac), N. Danley sur, lcn. L. G. Priest et al's A. Barnett 1 (212-ac), J. C. Hamer sur, A-417, elev 599 ft, dr 1000 ft.

LEON COUNTY—Killough & Tucker's G. B. Young 1 (100-ac), Jas. M. Boone sur, elev 227 ft, Pecan chalk 3950-4070 ft; fsh 4244 ft. Normangee Corp.'s B. F. Henry 1 (125-ac), R. Rogers sur, sp and sd.

LIMESTONE COUNTY—J. P. Davidson et al's J. M. Childs 1 (60-ac), J. Nelson sur, Blk. 3, lcn. Hall Edwards et al's W. W. Simms 1 (160-ac), J. L. Chavert sur, 8 mi e of Thornton, dk. Don S. Foster et al's C. O. Wright 1 (2-ac), Sorrel McAnulty sur, o.s. 1361-66 ft, sd to set cas 1320 ft. Peyton Bros. et al's Jake Steubenrauch 1 (246-ac), Pedro Varela sur, Trinity sand test on w side Mexia field, elev 541 ft, Austin chalk 2680-3059 ft; Woodbine sand 3545-3740 ft; Buda limestone 3740-3816 ft; Del Rio shale 3816-3914 ft; top Georgetown 3914 ft; top Glenrose 4580 ft; dr 5610 ft. J. E. Schultz et al's Roy Ward 1 (23-ac), Harrison York sur, dk. Stanley Thompson (was C. C. Curtis & J. E. Winnons') Emma Daniel Johnson 1 (41½-ac), Pedro Varela sur, top Austin chalk 2780 ft, dr 2990 ft.

MORRIS COUNTY—H.N.H. Drl Co.'s E. Hall 1 (177-ac), Levi Jordan sur, top Pecan chalk 2360 ft, sd 3690 ft. C. L. Simpson-McGinnis et al's P. M. Staggers 1, J. D. Nelson sur, Pecan chalk 2520-2955 ft, sd 3820 ft.

NAVARRO COUNTY—Bennett Bros. et al's T. E. Stewart 1 (83-ac), W. R. Bowen sur, sd 1186 ft. R. B. Godding et al's W. Kent 1 (48½-ac), C. B. Emmons sur, dr 1350 ft. W. J. Keeling Estate et al's J. F. Rushing 1 (84-ac), Henry Ford sur, 6 mi w Currie, elev 530 ft, Austin chalk 2155-2395 ft; dr 2430 ft. Wm. C. McGlothlin et al's R.E.L. Knight 1 (997-ac), C. Armstrong sur, rig. L. N. McCulloch et al's C. D. & J. L. Berry 1 (35-ac), W. W. Moss sur, sd 625 ft. R. L. Wheelock-J. L. Collins-Magnolia & Humble's I. N. Cerf 1 (147-ac), Jas. Smith sur, Trinity sand test on w edge Corsicana-Powell field, elev 435 ft, Austin chalk 2860-3372 ft; top Woodbine sand 3827 ft; top Georgetown lime 4307 ft; top Glenrose sand 4730 ft; dr plugs, td 5335 ft.

RAINS COUNTY—J. K. Wadley-J. W. Halsell et al's T. F. Jones 1 (22-ac), B.B.B.&C.

Ry. sur, elev 425 ft, Pecan chalk 2503-2700 ft; top Austin chalk 3970 ft, sd 4732 ft.

RUSK COUNTY—Geo. F. Hudson et al's J. H. Phillips 1-A, N. Villareal sur, top Pecan chalk 2412 ft, top Woodbine sand 3615 ft, jkd & abd 3675 ft. Head Water Oil Co.'s F. L. Gary 1 (200-ac), Jose A. Mora sur, Pine Hill area, Pecan chalk 2070-2258 ft; top Georgetown lime 3103 ft, dry and abd 3197 ft. Stewart & Egan's Hall Wood 1 (847-ac), Blk. 12, Jose I. Sanchez sur, sp and sd. A. Kelly et al's T. W. Harris 1 (80-ac), Wm. C. Davis sur, sd 500 ft.

SMITH COUNTY—R. W. Fair et al's Rushing 1 (50.8-ac), Jacob Herrin sur, sp.

UPSHUR COUNTY—G.H.O. Oil Co.'s J. M. Floyd 1 (177-ac), Robt. Raiford sur, sd 3700 ft. Lanier & Moore's Mrs. M. Vaughn 2, P. B. Stanifer sur, sd 1072 ft. Joe Papadakis et al's L. V. Towery 2, Wilson L. Parmer sur, sd 3780 ft.

VAN ZANDT COUNTY—J. C. Acre et al's F. W. Anderson 1 (160-ac), John Blair sur, 4 mi n of Wills Point, sp and sd. W. E. Brown et al's First Nat'l Bank (Edgewood) 1 (100-ac), M. V. Lout sur, elev 515 ft sd 2790 ft. Martin & Evans' L. M. Palmer 1 (69-ac), Blk. 13, N.C.S.L. sur, co 1305 ft. S. E. Miller et al's J. M. Palmer 1 (30.1-ac), Blk. 14, N.C.S.L. sur, sd 610 ft. Peden-Olson Oil Co.'s W. S. Brannon 3 (45-ac), sd 1227 ft; Palmer 1, sd 1270 ft. Rogers & Schwartz's S. E. McKenzie 1 (106-ac), Wm. Daniel sur, dk. Rauch et al's Bearden-Palmer 1, (61-ac), N.C.S.L. sur, rig.

WOOD COUNTY—Alex. M. Snyder et al's J. T. Holmes 1 (122-ac), A. N. McKnight sur, A-399, Pecan chalk 3400-3700 ft, sd 4210 ft.

PANOLA COUNTY—R. H. Davis' Wooten Est. 1, Winny Mann sur, sd 2060 ft. Givens & Holloway's Wooten Est. 1, Winny Mann sur, sd 1040 ft. Nichols et al's Ray 1, Winny Mann sur, sd 2080 ft. Stovall Drilling Co.'s Ivy 1, P. Martin sur, dr 800 ft.

SOUTH TEXAS

ATASCOSA COUNTY — Don Megehan's Donna Farms 1, B. Sanches sur, dr 3600 ft.

BANDERA COUNTY—A. P. Crane & Co., Watson 1, Curvier sur, Sec. 71, dr 1662 ft.

BASTROP COUNTY—Champion Oil Co.'s Chas. E. Anderson 1, J. A. Navarro sur, sd 2005 ft. Ogden & Reed Oil Co.'s C. L. Riddle 7, J. Gray sur, sd 2430 ft; Pendergrass 1, Denson sur, dr 1558 ft.

BEE COUNTY—Blanco Oil Co. & Al Buchanan's P. Perez 1, Sec. 9, Uranga Grant, prep to sp. H. I. Grimes et al's J. A. Allen 1, B. Odlum sur, dr 400 ft. Hill Hindeman's Imogene Hall 1, Fontaine sur, lcn. Luling Oil and Gas Co.'s Ruhmann 3, Blk 40, Butler sub, sand 3037-57 feet, show oil and gas, set csg wocs. Mauldin Bros. & Kimball's A. J. Kimball 1, Winship sur, coring 3550 ft. Woodsboro Oil Co.'s Fox 1, Amster sur, dr 1700 ft. R. J. Worthington et al's Rutledge 1, B. Q. Hadley sur, wait on ds 1200 ft.

BEXAR COUNTY—Lloyd Bender et al's Evans 1, fsh 640 ft. F. T. Chews' Ogden & Brooks 1, Mission Irrigated Farms, sd 290 ft in rock. McPhee & Briggs' Florence Lamb 1, M. de Luna sur, sd for pump repairs 895 ft. Linde Oil Co.'s Tomasi 1, R. Perez sur, dr 120 ft. Meadors et al's W. Cantu 1, J. M. Arocha Grant No. 15, move in machy. F. W. Noble's R. W. DeVilbliss 1, Martinez Sur. No. 36, wait on ds 1050 ft. Texas Petroleum Co.'s E. B. Carruth 2, F. Rolen Sur. No. 48, dr 650 ft. Umburn & Jones' Bilhartz 1, Rolen sur, No. 48, dr 500 ft.

BROOKS COUNTY—Cole Petroleum Co.'s G. D. Ullrich 1, Sec. 7, dr 1650 ft.

CALDWELL COUNTY — Cargill et al's Damerau 2, D. Cooper sur, fsh 2277 ft. F. P. Hynes' A. A. Storey 1, E. Berry sur, dr 1900 ft. Kurz Oil Prod. Co.'s C. Kurz Ranch 1, Klecamp sur, dr 2180 ft. Monte Vista Oil Corp.'s W. I. Pope 1, McCarley sur, dr 2665 ft. M. C. Moore's Lackey 1, S. Damon sur, coring 2585 ft. Newton Oil Co.'s A. O. Mebane 1, F. Berry sur, set 5 3/16 inch csg 1960 ft, td 1973 ft, wocs. Bob Rose et al's J. M. Pierce 1-B, S. Seal sur, owwo, sd 2539 ft in Edwards lime, show little oil.

CALHOUN COUNTY — Continental Oil Company's American National Realty Co. 1, Sec. 6, Block C, td 5878 ft, landed 9⅝ inch csg on bottom. Dyck Oil Corporation and Mills Bennett's E. R. Adam 1, V. Garcia sur, dr 5010 ft. Southwest Oil Corp.'s Welder Ranch 3, J. M. Rios sur, dr 3480 ft.

DUVAL COUNTY—Bonita Oil Co.'s Wood Welder 1, J. Poitevent sur, Sec. 211, dr 2100 ft. Continental Oil Co.'s Driscoll Estate 2-A, Sec 448, td 4695 ft, pn 3292 ft, perforate 7-in. csg 3270-80 ft, swabbing. Conway & Buescher's W. K. Hoffman 1, Sec. 119, lcn. Harrison Oil Co. et al's Serna 2, Sec. 523, dr 2500 ft. Harvey & Henderson's Serna 1, Sec. 384, re-dr 1741 ft. Lewis & Beer's W. R. Peters 1, Blk. 18, Sec. 27, test sw 2783 ft, dr deeper. W. C. McBride, Inc.'s, E. R. Hagist 1, Sec. 1, tested 16 doubles in 30 minutes 2151-74 ft, dr ahead. O'Byrne and Jennings' Juan Benavides 1, Blk. 6, Sec. 355, sd 2300 ft. G. Stewart Smith and Jeffers Oil Co.'s Garcia 1, Hinojosa Grant, sp. Sun Oil Co.'s Moreno 1, Sec. 540, td 6784 ft, reaming for dst. Texas Co.'s T. J. Graham 1, Sec. 572, dr, depth not reported. Washington-Texas Oil Co.'s Rita de la Pena 1, Share 4, El Mesquita Grant, dr 1600 ft.

EDWARDS COUNTY—H. H. Sides' Turney 1, CCSD&RGNG Ry. sur, Sec. 164, sd 1010 ft.

FAYETTE COUNTY—Magnolia Petroleum Co.'s Max Steinman 1, Almansure sur, ru.

FRIO COUNTY — Amerada Petroleum Corp.'s Halff & Oppenheimer 2, Sec. 16, dr 7463 ft.

GILLESPIE COUNTY—E. L. Nixon's Lindig 3, J. Guerra Sur. No. 41, dr 370 ft.

GOLIAD COUNTY—Duval Oil Corp.'s Lucy Borden 1, A. Guiterrez sur, prep to move in. Nichols-Hindeman et al's Lackey & Weldon 1, J. Gomez sur, ru.

GONZALES COUNTY—H. H. Weinert's A. Kallies 1, I. Nash sur, wor.

GUADALUPE COUNTY — J. E. Clark's Roughgarden 1, Blair sur, dr 1040 ft. Hollifield et al's Schwarlose 1, J. A. Miller sur, rept abnd in Edwards lime after testing sulphur water. Texio Oil Company & J. Elmer Thomas' Maurerman 1, Baume Grant, sd 3193 ft for determinations on geological markers.

HIDALGO COUNTY—Davis & Harrison's Mrs. L. George 1, Tract 13, Por. 41, bailed water and high gravity oil 4136 ft. Union Sulphur Co.'s American Rio Grande Land and Irrigation Co. 2, Blk. 86, Llano Grande Grant, dr 4075 ft. Woods et al's J. Lawrence 1, Tract 274, Por. 39, sand 2738-53 ft, dst showed mud, may set csg.

JACKSON COUNTY — Phillips Petroleum Co.'s Drummond 1, Musquiz sur, td 6012 ft, pb 5200 ft, sdtr, dr into old hole 5675 ft, again pb to 5200 ft to sdtr; State Realty and Investment Co. 1, dr 5170 ft; Simon & Seidel 1, td 6012 ft, pb 2690 ft to test snd 2650 ft.

JIM HOGG COUNTY—John D. Norwood, Jr.'s Mrs. C. W. Hellen 1, Sec. 49, prep to sp. Sun Oil Co.'s A. Martinez Est. 1, Las Animas Grant, abnd 3350 ft.

JIM WELLS COUNTY—O. W. Killam's W. D. Wade 1, Lot 1, Blk. C, Wade sub, dr 3400 ft. Smith & Storey's Martha E. Dilworth 1, Stanley Welsh sur, Sec. 88, bldg dk.

KARNES COUNTY—Harrison & Abercrombie's Schaeffer 1, A. W. Belvin sur, coring 2390 ft.

KERR COUNTY—Jeff Love & Eastland Oil Co.'s Jeff Love 5, Sec. 1591, underreaming 2330 ft. J. F. Morrissey, Inc.'s, Karger 1, Sec. 1, top Ordovician 725 ft, dr ahead.

LA SALLE COUNTY—Standard Oil Co. of DC's J. M. Martin 1, Sec. 683, dr 280 ft. Dupre Fountain's R. J. Kroschewsky 1, Starty sur, ru.

McMULLEN COUNTY—Brasada Oil Co.'s Nueces Land and Live Stock Company 1, sw Sec. 111, sp. Cooper-Frates, Inc. et al's E. R. Hagist 1, Sec. 125, td 2200 ft, top Pettus sand 2190 ft, test sw, abnd. C. C. Shumway, Inc.'s, Shiner Ranch 7, Sec. 62, re-dr 1930 ft. Whisenant & Trenchard's Kate Martin 1, Sec. 30, ru.

MEDINA COUNTY—Scoggins & Sanders' L. W. Burrell 1, M. E. Gage sur, No. 395, dr 1610 ft.

MILAM COUNTY—McNeil Petroleum Co.'s W. C. Butler 1, James Lewis sur, sp and sd.

NUECES COUNTY—Bluff Petroleum Co.'s V. Bluntzer 1, Share 7, Bluntzer sub, lcn. Nutex Oil Co.'s King 1, Sec. 24, King Farm Lots, td 6021 ft, pb 5554 ft, trying to complete. Sanolind Oil and Gas Co.'s Stratton 2, Abajo

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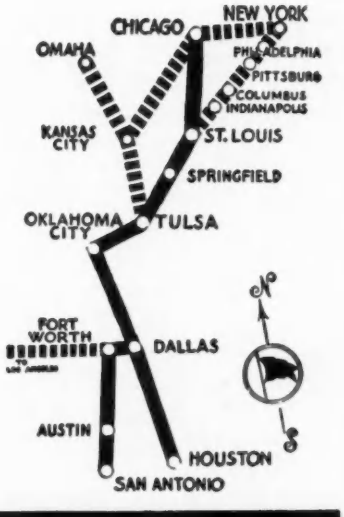

Bowen Air Lines

Grant, Section 13, coring 6401 ft. Texon Royalty Co.'s Robert Driscoll 1, 880-acre tract, making lcn.

REAL COUNTY—M. J. Heartwell's Mrs. M. S. Perry 1, Sec. 175, building rig 2838 ft.

REFUGIO COUNTY — Holland Oil Co.'s Peck 1, Sec. 24, Esteban Lopez sur, td 5348 ft, fished out 17 fourbles tubing, re-run. G. Jeffrey's J. F. Power 1, Garza & Vidauri sur, td 4523 ft, dk to be re-built and well dd to 6000 ft. Quintana Petroleum Co.'s T. O'Connor 1-A, Swisher sur, Blk. 3, wo 5380 ft; T. O'Connor 2-A, dr 5015 ft; T. O'Connor 1-B, BBB&C survey, dr 5350 ft.

SAN PATRICIO COUNTY — Allied Minerals Co.'s Ramsey 1-A, Giddings sur, move in tools for 6000 ft test. Atkins, O'Neil and Continental Oil Co.'s Welder 2, Villareal sur, td 5383 ft, shut in for orders. Beasley & Maxwell's Saddler 1, Sec. 32, sd 6011 ft, contract depth, wait on orders. Heep Oil Corp.'s Bob Welder 2, Welder Home tract, lcn; Welder 4, J. & F. Portillo sur, sp and set sur csg, wocs. Petrol Corp.'s Welder 1, de la Garza sur, td 6000 ft, pb 5200 ft, sdtr, coring.

STARR COUNTY—R. S. Bolling's M. M. Garcia 1, Sec. 918, sd 2550 ft. Great Plains Oil Co.'s Sanchez 1, Sec. 344, td 3615, blew out, ran wild a few hours, may complete. C. L. Smith's Longfellow 1, Sec. 281, sp. Sun Oil Co.'s A. M. Guerra 7-C, Por. 111, test sw 2306-20 ft, coring 2350 ft.

TRAVIS COUNTY—Humble Oil & Refining Co.'s C. J. Peterson 1, J. Kemp sur, dr 320 ft.

UVALDE COUNTY—Humble Oil & Refining Co.'s R. L. Anderson 1, J. J. Guerra sur, dr 3460 ft.

VICTORIA COUNTY — American Liberty Oil Co.'s Gaugler 1, R. Machola Grant, dr 1256 ft. R. Cox's Zimmer 1, Manchola Grant, sp. Gulf's Keeran 5, M. de Leon sur, dr 5650 ft. Humble Oil & Refining Co.'s Mitchell 2, P. Benavides sur, dr 6385 ft; A. M. McFaddin 1, dr 6505 ft. Plummer et al's Zimmer 1, R. Manchola Grant, dr 2552 ft; E. Terrell 2, R. Manchola Grant, bldg dk. Texas Co.'s A. M. McFaddin 2, C. M. B. Hoyt sur, fsh 4874 ft; Jess Midgett 1, T&NO sur, sp.

WEBB COUNTY—Cole Petroleum Co.'s R. Benavides 85, Callaghan Home tract, td 3422 ft, pb 3415 ft, re-completing; Benavides 86, Sec. 1, dk. Fidelity Exploration Co.'s R. Saldivar 1, Sec. 657, Borrego Grant, sand 2285-94 ft, making dst. Kalmor Oil Co.'s A. M. Bruni 1-B, Blk 43, survey 5, dr 2200 ft. O. W. Killam's Bruni 25, Sec. 6, ru; Bruni 26, Sec. 9, dk. W. P. Morris's A. M. Bruni 1, Blk 65, ru. J. Elmer Thomas's A. E. Gates 1, Sec. 64, sp.

WILLACY COUNTY—W. W. Silk's Santa Rosa 1, Lot 16, Blk. 130, dr 1500 ft.

WILLIAMSON COUNTY—J. W. Johnson et al's Oxford 1, Williams sur, dr 920 ft. Home Oil Co.'s Fritz Raes 1, J. Bevil sur, sd 610 ft. J. M. Russell's Nelson Estate 1, Justice sur, dr 375 ft.

ZAPATA COUNTY — Robertson Allison's Mrs. E. T. Garza 1, Sec. 13, Block 5, dr 1657 ft. Danvers & Harrison's N. J. Vela 1, Blk 7, Vela Sub, Por. 29, sd 1623 ft. Merle Gunby et al's Mrs. Alice D. Haynes 1, Comitas Grant, installing pump 824 ft, sand 814-24 ft, tested 21.4 gravity oil, depth corrected. H. & M. Drilling Co.'s M. D. Slator 1, Blk 65, Mission Oil Co. sub, Borrego Grant, ru. Joe Palmer's S. Vela 1, Blk 170, Share 4, dr 780 ft.

TEXAS GULF COAST

AUSTIN COUNTY—I. T. I. O. & Johnson Bros.' Wangler 1, A Kuykendall sur, abd 4305 ft.

BRAZORIA COUNTY — Amerada Pet. Corp.'s Houston Farms Dev. Co. 1, L. G. Bachelder sur, dr sand 5963 ft. Gillock Pet. Corp.'s Truksa 1, H. & T. B. No. 7 sur, dr shale 4250 ft. Jack Clark's Speer 1, J. F. Pinckney sur, dr sand 5070 ft. Harrison & Abercrombie's Bernard River Land Co. 1, C. Breen sur, dr shale 5825 ft. Turnbull & Irwin's Braden 1, H&TB Survey, Sec. 50, lcn.

BRAZOS COUNTY—M. E. Wallace, Jr.'s Broach 1, Geo. Singleton sur, lcn.

BURLESON COUNTY — Bear Pond Oil Co.'s Coulter 1, A. Kennon sur, coring sand and shale 6020 ft.

COLORADO COUNTY—Quintana Oil Co.'s Olmstead 1, M. Batson sur, coring 5035 ft.

FT. BEND COUNTY — W. H. Scheper's Bartosh 1, H&TC Sec. 52 Sur, sd 2100 ft. Vico Oil Co.'s Darst 1, E. Powell sur, rigging up. Wilkes et al's Norris 1, Geo. Teel sur, lcn.

GALVESTON COUNTY — Humble O&R Co.'s Maco Stewart 1-B, J. Sellers Lge., building dk. Pure Oil Company's Schelor 1, BBB&C survey, ru Gillock Pet. Co.'s Spoor 2, lcn. J. E. Sedberry's Shaw 1, on Galveston Island, rebuilding dk after storm.

GRIMES COUNTY — W. D. Roan et al's Kelly 1, U. Sanders sur, abd 2860 ft.

HARDIN COUNTY — Wilcox O&G Co.'s Sternberg 1, G. Dorsey sur, sd 6018 ft.

HARRIS COUNTY—Foster et al's Johnson 1, CC&SF sur, lcn. General Crude Oil Co.'s Rorick Est. 1, J. C. Ogburn sur, dr shale 6660 ft. Imperator Oil Co.'s Brooks 1, R. R. Vince sur, sd 300 ft. Loring Oil & Gas Co.'s Westmoreland Dev. Co. 1, J. M. Swisher sur, abd 7664 ft. Southland Oil Co.'s Galney 1, H&TC Sec. 4 sur, abd 6633 ft. Texas-New York Dev. Co.'s Ralston 1, J. W. Moody sur, dr shale 5242 ft

JEFFERSON COUNTY — Magnolia Pet. Co.'s Trust 1, P. H. Bell sur, dr shale 5616 ft. Sun Oil Co.'s Long 1, J. Blair sur, washing over drill stem stuck at 8593 ft.

LIBERTY COUNTY—R. M. Bruner's Bell 1, H. & T. B. No. 4 sur, abd lcn. Extension Oil Co.'s Lovett 1, P. P. Dever sur, dr shale 3556 ft. Liberty Independent Oil Co.'s Neal 1, S. Strong sur, sd 2400 ft.

MONTGOMERY COUNTY — Shell Pet. Corp.'s Creighton 1, Mary Connor sur, abd 5050 ft.

POLK COUNTY—Kirby Pet. Co.'s Kirby Lbr. Co. 2, J. Stephenson sur, dr shale 5143 ft.

TYLER COUNTY — Boone, Wallace and Lane's Crews 1, S. L. Graham sur, Jaybee Oil Co.'s Wheat 1, J. Wheat sur, dr shale 2840 ft.

WHARTON COUNTY — Texas Gulf Prod. Co.'s Kresta 1, ETRR No. 151, sur, dr shale 5058 feet.

SOUTH LOUISIANA

ACADIA PARISH — Woodley Pet. Co's Daigle 1, sec 24-7s-1e, coring shale 7640 ft, 9⅝-in csg set.

ALLEN PARISH—Humble O&R Co's Industrial Lbr Co 1, sec 21-3s-5w, dr shale 2025 ft.

BEAUREGARD PARISH—Federal Pet Co's Lutcher Moore B-1, sec 26-6s-13w, dr shale 7200 ft. Gulf Production Co's Lutcher Moore 1, 660 ft n, 760 ft w of se cor of se¼ of ne¼ of sec 25-6s-12e, lcn.

CALCASIEU PARISH—Fred Oil Co's Faist et al 1, sec 26-8s-10w, sd 2875 ft. Union Sulphur Co's Baree Est 2, sec 11-9s-8w, dr sand 7550 ft; same company's State 1, 1940 ft s, 2513 ft e of nw cor sec 13-9s-8w, lcn.

CAMERON PARISH—The Texas Co's Calcasieu Lake 10-A, sec 1-14s-9w, 6909 ft salt, pb 2770 set whipstock.

EAST FELICIANA PARISH — Thompson Creek Oil Co's Fanny Noland 1, sec 70-1s-1w, spd.

EVANGELINE PARISH—L. Puckett's Vidrine 1, sec 34-3s-2e, dk.

IBERIA PARISH—Grosse Tete Dev Co's Augelloz 1, sec 54-12s-7e, sd 2270 ft.

LA FOURCHE PARISH—Barnsdall Oil Co's Harang Plantation 3, sec 97-17s-20e, dr shale 5990 ft. R. L. Gay tr's Gedchaux 1, near Raceland, fsg 6000 ft, td 6226 ft.

PLAQUEMINES PARISH — E. A. Howe Tr's Buras Levee 1, sec 26-21s-30e, drill stem stuck 3252 ft.

ST. BERNARD PARISH — J. Danciger's Battles 1, sec 135-14s-14e, woc 1157 ft.

ST. MARTIN PARISH — The Texas Co's St. Martin Ld. Co. 6, sec 17-8s-7e, woc 8173 ft.

VERMILLION PARISH — J. C. & Lon Moore's Breussard 1, sec 32-11s-3e, sd 4056 ft.

NORTH LOUISIANA

BIENVILLE PARISH—Saline Drilling Co.'s Pardee 1, ne se 27-14n-6w, sd 145 ft. Tooke & Reynolds' J. W. Sprawles et al 1, sw ne 8-15n-6w, rur.

BOSSIER PARISH—Jno. L. Anderson, Tr.'s Leonard 1, sw sw 19-19n-13w, dr 3610 ft, red beds. Joe P. Dixson et al's Sentell-Dickson 1, se nw 10-20n-13w, mim. Producers O&G Co., Inc.'s W. H. Werner 1, se se 7-17n-11w, hole clean, arr set 4½-in csg td 3990 ft.

CALDWELL PARISH—Terrell & Price's La. Central Lbr. Co. 1, nw ne 18-11n-3e, sd 3290 ft.

DE SOTO PARISH—Century Oil & Drilling Co.'s Norton 1, sw ne 27-11n-14w, sd for

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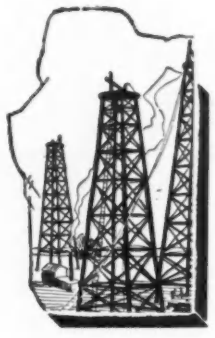

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water 767 ft. Dempsey & Manziel's Thigpen 1, sw ne 33-13n-13w, sd 1610 ft. Hester et al's Alston 1, ne sw 11-11n-16w, dr 1400 ft. E. T. Oakes' Johnson 1, ne nw 30-13-15, arr set liner, td 5412 ft, oolitic lime.

EAST CARROLL PARISH—United Gas Pub. Serv. Co.'s Giddens 1, 12-19n-10e, rur.

NATCHITOCHES PARISH — Hickman et al's W. W. Page Est. 1, se nw 18-8n-9w, dr 2155 ft. Jack Lent's Brown Lbr. Co. 1, ne sw 27-9n-9w, dr 610 ft. Roy Raines et al's Fee 1, sw sw 28-9n-10w, arr set 8¼-in csg 2275 ft.

SABINE PARISH—Tex-La-Ark Oil Co.'s Pickering Lbr. Co. 1, ne sw 3-3n-12w, claim sg sd 2192 ft, top Wilcox. Homer Tyson's G. W. Hough 1, sw sw 31-9n-12w, lcn abn.

WEBSTER PARISH—M. J. Kissick, Tr.'s B. M. Cook 1, nw ne 2-22n-11w, dr 2680 ft. W. H. Neeley's B. M. Slack 1, ne nw 12-22n-11w, mim.

UNION PARISH—Leavell & Lawson's J. L. Gunter 1, sw sw 14-23n-3w, lcn.

ARKANSAS

BRADLEY COUNTY—Seton Oil Prod. Co., Inc.'s C. H. Murphy et al 1, ne se 34-15-10, lcn.

COLUMBIA COUNTY—Dudney & Woodward's L. H. Pearce 1, ne nw 7-17-20, dr 510 ft.

HEMPSTEAD COUNTY—Arkansas Drilling Co.'s Jones 1, ne se 11-14-24, sd repr rig 980 ft. F. W. Martin & Co.'s Lafferty 1, se nw 17-14-24, wocs 10-in csg 110 ft.

LA FAYETTE COUNTY—A. L. Erwin et al's Bodcaw 1, ne ne 19-16-23, fsg 3820 ft. C. V. Lenz' Huston 1, 19-15-25, dr 2500 ft. Ralph H. Neely's Flemming Hrs. 1, nw sw 31-18-25, dr 100 ft.

MILLER COUNTY—Bloomburg Oil Corp.'s Patterson 1, se ne 5-19-28, tested sw 3580-90 ft, core 3659 ft, Eagleford shale. Oilwell Oil Corp's Burt Dodd 1, sw ne 10-19-28, dry through ds at 1990 ft, dr 2505 ft chalk.

OUACHITA COUNTY—J. S. Carnes' D. Scott 1, sw ne 18-14-18, spd 10-in csg 44 ft. T. J. Gaughan et al's M. Bragg 1, nw sw 30-13-17, wocs 10-in csg 105 ft.

ST. FRANCIS COUNTY—Field Jenkins & Jones' Walford 1, ne ne 29-4n-1e, sd 975 ft.

UNION COUNTY — Alexander-Head Oil Co.'s Union Sawmill Co. 1, sw sw 28-17-13, tested sw 3580 ft, arr deepen. Reuter Oil Co., Inc.'s Kinard 1, se nw 32-18-14, rur.

ALABAMA

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 1, nw sw 9-3n-29e, arr res, td 1795 ft.

LAMAR COUNTY — De Soto O&G Co.'s Gardner 1, nw nw 22-15-16, dr 4205 ft.

PIKE COUNTY—Alabama Drilling Co.'s Faulk 1, nw nw 31-11n-21e, mim.

TENNESSEE

HAYWOOD COUNTY—E. R. Henderson's Fee 1 (5 mi from Brownwood), dr 2035 ft.

MISSISSIPPI

CLARKE COUNTY—Clarke County Oil Co.'s S. B. Kirkland 1, se nw 10-2n-16e, elev 328 ft, top Selma chalk 2597 ft, dr 2705 ft chalk.

LAUDERDALE COUNTY — Dalton Dev. Co.'s Bounds 1, 34-7n-15e, rur.

LAMAR COUNTY—Germany & Hix's J. J. Newman Lbr. Co. 1, sw ne 21-4n-15w, dr 1365 ft.

MONROE COUNTY—P. J. McAlpine's F. L. Rye 1, nw sw 15-15s-17w, dr 50 ft. Crook 1, 4-13s-18w, owdd, td 720 ft. Chas. Rye 1, se sw 22-15-17, claim sand 2867-2917 ft, arr shoot, td 2917 ft.

PEARL RIVER COUNTY—Gulf Ref. Co.'s May L. Williams 1, se ne 35-5n-17w, dr 4105 ft.

RANKIN COUNTY—Love Pet. Co.'s Pearl River-Interior Lbr. Co. 1, sw sw 15-6n-2e, elev 276 ft, dr 4155 ft, Eutaw.

WINSTON COUNTY—Jack Vale's Moody 1, nw sw 3-13n-14e, rur.

WARREN COUNTY—Harry W. Elliott's R. L. Parker 1, 14-14n-1e, arr pb, td 3100 ft.

MICHIGAN

MIDLAND COUNTY — Goll-Grave-Mechling's Crane 1, Mills twp, Sec. 21, spd. Atha Oil Co.'s Moran 1, Mt. Haley twp, c-e½ se, Sec. 28, 13n-1e, spd.

ISABELLA COUNTY — Thompson Bros.' Isabella Bank 1, Deerfield twp, Sec. 22, dr 450 ft. W. Hunter Atha's Phillips 1, Gilmore twp, Sec. 36, 10-in csg 448 ft, dr 600 ft. Lupher Drilling Co.'s Baer 1, Broomfield twp, Sec. 36, dr 2200 ft. Bundy Hill Oil Co.'s Russell 1, Broomfield twp, Sec. 6, rog. Michigan Gas & Oil Co.'s Marthey 1, Denver twp, Sec. 19, dr 3800 ft. McClanahan Oil Co.'s Sweeny 1, Denver twp, Sec. 33, sd 450 ft.

OGEMAW COUNTY — McClanahan Oil Co.'s Boutell 1, Ogemaw twp, Sec. 5, dr 550 ft. C. A. Perry's Wobig Heirs 1, Mills twp, Sec. 6, td 2615 ft, tubing to treat with acid, 1300 ft oih. W. C. Mee's Gibbs 1, Mills twp, Sec. 30, sd 2285 ft. Burks White's Canard 1, Mills twp, Sec. 22, ru. M. S. Ingold's Stevens 1, Ogemaw twp, Sec. 24, dr 1800 ft.

MONTCALM COUNTY—Walter and Miller's Durbin 1, Crystall twp, Sec. 11, lcn. Tope-Voorhees-Blunt's Neff Ranch 1, Day twp, Sec. 22, sd 1230 ft. Mammoth Petroleum Co.'s Thomas 1, Home twp, Sec. 11, ½M gas 1355 ft, dr 1500 ft. Garfield Oil & Gas Co.'s Wymer 1, Home twp, Sec. 11, dr 2800 ft. Allen Park Oil Co.'s Stephens 1, Home twp, Sec. 36, skidded. Daily Crude Oil Co.'s Gustavson 1, Home twp, Sec. 2, dr 3200 ft. Pure Oil Co.'s Tenney 1, Home twp, Sec. 3, dr 2200 ft. Edward Duvall's Eickethorn 1, Pierson twp, Sec. 13, lcn.

MECOSTA COUNTY—Hall-La-Mee Synd.'s Oliver 1, Martiny twp, Sec. 23, sg 1363 ft, sd. Bryan & Martin's Sheets 1, Millbrook twp, Sec. 35, 2,112,000 ft gas at 1336 ft, sd waiting on orders. Colmur Oil Co.'s Sapp 1, Morton twp, Sec. 6, csg 1200 ft. Alma-Mecosta Synd.'s Sullivan 1, Morton twp, Sec. 19, lcn. Gordon Oil Co.'s Garner Bros. 1, Millbrook twp, Sec. 32, dr 586 ft.

OSCEOLA COUNTY—Sun Oil Co.'s Marble 1, Evart twp, Sec. 8, sw 3264 ft, sd 3270 ft. Mellon and Pollock Oil Co.'s Johnson 2, Richmond twp, sw se ne Sec. 1, 17n-10w, mit.

LENAWEE COUNTY — P. D. Snavely's Lindsay 1, Madison twp, Sec. 6, skid 125 ft.

GENESEE COUNTY — Power Oil Co.'s Booner 1, Flint twp, Sec. 23, dr 1800 ft.

GLADWIN COUNTY—M. F. Whitehall's Kintner 1, Beaverton twp, Sec. 11, dr 900 ft.

LAPEER COUNTY — Columbia Oil Co.'s Belz 1, Lapeer twp, Sec. 26, dr 900 ft.

OWNERSHIP MAPS

ST. LANDRY PARISH
LAFAYETTE PARISH
South Louisiana

We have just completed parish ownership maps of St. Landry Parish and Lafayette Parish, both drawn to scale 2" equals 1 mile.
St. Landry Parish in north half and south half sells for $8.00 per half or $15.00 complete.
Lafayette Parish in one map at $10.00.

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Automatic Liquid Gauge

THE LUNKENHEIMER COMPANY

The Lunkenheimer Company, Cincinnati, Ohio, has made a distinctive change in design in Figure 1183 Automatic Liquid Gauge. All internal working parts—stem, gland, retaining ring, stuffing box washers and ball checks—are now made of stainless steel, to provide maximum resistance to corrosion and eliminate sticking. The new pressure rating is 350 lb. G.L.P. (gas-liquid) at 450°F. temperature.

Lunkenheimer Gauge

The new gauge has been thoroughly tested and proved in actual field service. It is adapted for use on pressure tanks, gravity tanks and other reservoirs handling liquids which attack brass or bronze—where a non-corrodible, non-sticking gauge is essential.

Dependability and safety are insured by the exceptionally sturdy construction; automatic closure of ball checks in both upper and lower valves in the event of glass breakage; non-corrodible and non-sticking working parts; easy and safe replacement of new glasses; cone shape packings which prevent leakage around glass, and minimize glass breakage due to over-packing and torsional strains; reduced fire and accident hazard; standard pipe plug in lower valve body for drain connection. Figure 1183 is Parkerized—a protective coating that retards rust and improves appearance.

Booklet F-586, fully descriptive of design and construction details, will be sent upon request.

Tractor

TRACKSON COMPANY

Trackson Company, Milwaukee, Wisconsin, has announced a new heavy duty tractor, the Model GL Trackson-Case Crawler-Tractor. The unit is powered by the Model L Case motor, weighs 8000 pounds and develops approximately 40 drawbar horsepower. This ratio of power to weight meets the demand for maximum power with minimum weight. Its track area in contact with the ground is extra large and harnesses the power so completely that the effective drawbar pull is unusually high, according to the manufacturer.

Designed to work with super-imposed auxiliary equipment, the GL tractor has a low center of gravity, wide tread and special balance to provide the best stability with front, rear and side loads. The crawlers have extra large load supporting bearing area, great structural strength and provisions for proper inbuilding of equipment, such as booms, cranes, hoists, etc.

The improved heavy-duty crawler track has single drive lugs that form a rail upon which the front and rear crawler wheels run. The front wheels are of sheave type, while the rear wheels have drive teeth independent of guide flanges. This design assures positive action, proper alignment under all operating conditions and provides maximum load carrying capacity.

Belt

THE B. F. GOODRICH COMPANY

The B. F. Goodrich Company, Akron, Ohio, has perfected and is offering a new type endless belt, which has been developed by Fred G. Skeyhan, a member of the technical staff. Improved construction of the new type, known as the "Plylock Belt Joint," is said to overcome a difficulty which has been experienced to some degree with all stop belt joints—a tendency of the outside seams to open up during severe service.

Skeyhan conceived the idea of imbedding or countersinking the seam below the surface of the belt in such a position as to relieve the seam from strain and shield it from windage or wear. The protection is made possible by a thick cushion of rubber reinforced with bias fabric which is permanently vulcanized into position.

The improved construction will be featured in all Goodrich factory-built endless belts.

Tee

JARECKI MANUFACTURING COMPANY

Jarecki Manufacturing Company, St. Louis, Missouri, has announced a newly perfected malleable iron fitting, designed to form a connection between the tubing, flow line and stuffing box of a pumping well. Known as the Jarecki Pumping Tee, the fitting is threaded to screw directly on plain or upset tubing, flow lines and stuffing boxes. Swage nipples, sub-nipples and bushings are eliminated. Having three times the weight and strength of the standard 150-pound malleable tees generally used, the pumping tee is able to withstand the stresses of vibration, the weight of

long strings of sucker rods and the weight of improperly supported flow lines, the manufacturer claims.

Available in six sizes for two-inch, 2½-inch and three-inch plain and upset tubing, the tee has already been adopted by a large number of operators.

Switches

GENERAL ELECTRIC COMPANY

General Electric Company, Schenectady, New York, has announced a new line of indoor disconnecting switches with ratings as high as 1200 amperes at 5000 volts, featuring silver-to-silver line-pressure contacts. The silver applied to the contacts by a special company process produces a surface of unusual wearing qualities, according to the manufacturer.

Perforation Cleaner

SHULL PERFORATING COMPANY, INC.

Shull Perforating Company, 2750 Cherry Avenue, Long Beach, California, has perfected and is offering a perforation cleaner which utilizes the same principles of operation found in the Shull Bailer. It presents a powerful cleansing action throughout the string of perforated casing. Instead of using an open suction shoe, this cleaner is equipped with a blind shoe. Holes are drilled therein to provide free entry of the fluid and sand collections from within and behind the casing perforations.

The cleaner is the reverse of the assembly of the Shull bailer, the valve assembly being set in reverse position. The cleaner may be loaded at different levels in the well and the clogged perforations cleaned progressively. A new bulletin describing the cleaner has been issued and will be mailed upon request.

Non-Sparking Tools

STANLEY TOOLS

Stanley Tools, New Britain, Connecticut, has announced a line of non-sparking tools for use by oil companies, lacquering plants, producers and processors of cellulose nitrate, public utilities, and other industries confronted with explosion and fire hazards in maintenance and production work. They are also non-magnetic, and the manufacturer claims they are almost as durable as steel tools of similar design and size.

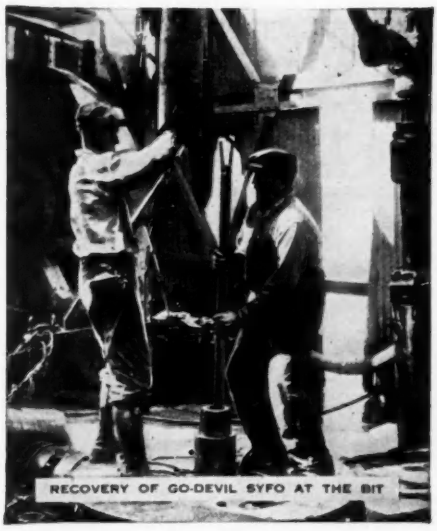
The working parts of these non-sparking tools are made of hardened, wrought beryllium copper, a new copper alloy containing from two to 2½ percent beryllium. Beryllium is an element found in a series of complex minerals, mostly silicates, widely scattered over the earth's surface.

The line of small tools include chisels, screw drivers, hammers, picks, pry bars, scrapers and wedges.

Safety Switches

CUTLER-HAMMER, INC.

Cutler-Hammer, Inc., Milwaukee, Wisconsin, has announced a new line of explosion proof safety switches for use in Class I, Group D, hazardous locations. The new type switches include both single throw (Bulletin 4104) and double throw (Bulletin 4124) types in standard sizes up to 200 amperes capacity. The switch is a heavy industrial duty Type A construction, with outside operating handle, mounted in a weatherproof, semi-steel cast enclosure to comply with the national electrical code.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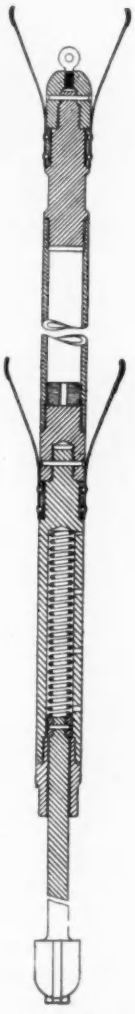
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***The* SYFO Clinograph**

(U. S. Patent 1,962,634 and others pending)

NEWS *from the Industry's* EQUIPMENT MAKERS

G. W. (Jack) WALTON

Walton Representating Emsco In Mid-Continent Area

George W. (Jack) Walton has been appointed manager of the machinery division of Emsco Derrick & Equipment Company in the Mid-Continent, and will have offices in the Continental Building in Dallas, Texas.

Walton has been active in the supply business during the past 14 years, after attending Missouri School of Mines. He has been with National Supply Company and Wilson-Snyder Manufacturing Corporation in the Mid-Continent, was in the London, England, office of National Supply Company, and for the past eight years connected with the sales department of Emsco Derrick & Equipment Company in the Mid-Continent.

Continental-Emsco Names South American Representative

F. C. Ripley, Jr., formerly with Emsco Derrick & Equipment Company of Los Angeles, has recently been appointed South American representative, specializing on Emsco, D+B, and Gardner-Denver equipment, for Continental-Emsco Company, Inc., of New York City.

Ripley left Los Angeles August 11 and will visit the D+B plant at Dallas, Texas, the Gardner-Denver plant at Quincy, Illinois, the Youngstown Sheet & Tube Company's plant at Youngstown, Ohio, and the fair in Chicago, before going on to New York, where he will stay a few days at the main office of the company before proceeding to South America, where he will establish permanent headquarters. He plans to visit every oil field in South America.

Before entering active business, Ripley made a trip around the world with a traveling university studying foreign trade. Upon his return he joined the transport department of General Petroleum Corporation. Later he was identified with Pan-American Transport Company

F. C. RIPLEY

and Chanslor-Canfield-Midway Oil Company, going with Emsco Derrick & Equipment Company in 1927, where he has been connected in both the shop and sales departments.

Champion Machine & Forge Takes Over Union Switch

Effective on September 1, 1934, The Union Switch & Signal Company of Pittsburgh is discontinuing its commercial drop forge business and transferring all dies and unfilled orders to The Champion Machine & Forging Company of Cleveland. Finley L. Walton, who has directed commercial drop forge sales for Union Switch & Signal Company, becomes affiliated with The Champion Machine & Forging Company in a similar capacity.

Electrical Welding

The Lincoln Electric Company, Cleveland, Ohio, has published an interesting booklet, "The Shielded Arc," which describes the shielded arc process of welding.

BULLETINS

Centrifugal Pumps

Worthington Pump and Machinery Corporation, Harrison, New Jersey, has ready for distribution Bulletin No. W-310-B-4, describing the Types C, CA and CB centrifugal pumps manufactured by the company.

Pumps

Worthington Pump and Machinery Corporation, Harrison, New Jersey, has for distribution Bulletin W-321-B2, which describes the "Monobloc" centrifugal pumps (single stage) manufactured by the company. Full rating tables are shown.

Welding

A very attractive booklet "A New Welding Technique for Pipe Lines" has been issued by Air Reduction Sales Company, Lincoln Building, 42nd Street, New York City.

Roller Bearings

Shafer Bearing Corporation, Chicago, has announced publication of a 50-page catalog No. 12, which describes the roller bearings and bearing units manufactured by the company.

Hard Metals

Haynes Stellite Company, 205 East 42nd Street, New York City, has announced publication of a 36-page booklet, "Haynes Stellite Products in the Oil Fields", which describes the latest methods and materials for hard-facing and hard-setting oil well drilling tools and wearing surfaces of other equipment used in the oil industry.

Rock Drill Bits

Ingersoll-Rand Company, Phillipsburg, New Jersey, has issued an eight-page bulletin on "Jackbits", a type of rock drill bits developed and manufactured by the company.

Packing

Johns-Manville, New York, has published a new 48-page catalog on its complete line of packing materials. Over 60 different types of packing are described and illustrated.

Belts

Dayton Rubber Manufacturing Company, Ohio, has issued a complete catalog, which is descriptive of the "V-Flat Drives" manufactured by the company. The drive differs from the regular V-belt drive, in that the large pulley is flat instead of grooved, the bottom surface of the V-flat belts riding on the flat surface of the large pulley.

Chemicals

Dow Chemical Company, Midland, Michigan, has issued a 100-page catalog, listing its full line of chemicals, many of which are new or comparatively so and have not been previously listed.

Crown Block

National Supply Company, Toledo, Ohio, has issued a number of bulletins describing items manufactured by the company. Bulletin No. 43 describes the Type SC Ideal crown block; Bulletin No. 44, the National Type UA beam hanger; Bulletin No. 45, the National Type G tubing support; and Bulletin No. 46, the Type OB-36 Ideal throw-off.

Squeaks *from the* BULL WHEEL

"Give me Main 4321—Hello; this the wife?"

"Yes."

"Listen, dear. Will it be all right if I bring a couple of fellows home for dinner tonight?"

"Why, certainly."

"What?"

"Certainly it will. I'd be glad to have them."

"Oh, pardon me, lady. Wrong number!"

Old man Nibbs has had a lot of trouble with his wooden leg. The sap froze up in his leg last winter and split it right in two. Then the next leg he got was warped and wouldn't walk straight. Every time he started for the store he wound up at the movies. He bought a solid mahogany leg after that, but his wife made him throw it away because it didn't match the rest of the furniture. At last he made a leg out of a peach-tree limb, but had to junk it this spring when it began to blossom. His present leg isn't so bad if the confounded woodpeckers would let him alone. His wife says his main trouble is laziness. She says it's hard for him to get a wooden leg that isn't geared faster than his good one.

"The boss bawled me out this morning about my lipstick."

"Gonna stop using it?"

"No, gonna use stuff that doesn't come off."

"You're the slowest boy we've ever had. Aren't you quick at anything?"

"Yes, sir; nobody can get tired as quickly as I can."

"What should be done in a case of drowning?" asked the timid man who was learning to swim.

"Well," replied the instructor, "I should think the natural thing would be to have a funeral."

The farmer's horse would start, go slowly, then stop. The farmer had trouble starting him again.

Traveler: "Is your horse sick?"

Farmer: "Not that I know of."

Traveler: "Is he balky?"

Farmer: "No, but he is so darned afraid I'll say 'whoa' and he won't hear me that he stops every once in a while to listen."

"When I was young they said there was no fool like a young fool."

"Well?"

"When I grew old they said there was no fool like an old fool."

"Yes."

"And in between whenever I made a success of anything, I was always a fool for luck."

"So you were at Rome and Venice, too?" enthused a tourist. "Remember how Florence looked in the moonlight?"

"I'll say!" equally enthused his shipmate. "An' wasn't she the loving kid, though?"

And what is your name, my good man?

999.

O, but that's not your real name.

Naw, that's only me pen name.

He: You say you don't know what love is?

She: Why, of course I do. It's the tenth word in a telegram.

First Customer: Waiter, bring me a plate of hash.

Waiter (calling back to the kitchen): Gentleman says he'll risk it.

Second Customer: Waiter, I'll take the same.

Waiter (calling back to the same kitchen): Another sport!

The class listened with bated breath to the teacher's account of her encounter with a road bandit.

With dramatic gestures she reached the climax of her story, and concluded by saying:

"And then I fainted."

Little Freddie gazed with awe and admiration at his teacher. Suddenly he asked:

"With your left or your right, teacher?"

A member of congress was very much impressed with the dignity of his position, and it was always on his mind. One night his wife awakened him and whispered:

"John, there are burglars in the house."

"You must be mistaken, my dear," he answered. "There may be a few in the senate, but in the house—on, no; the idea is preposterous."

Policeman: "How did you knock him down?"

Motorist: "I didn't. I pulled up to let him go across—and he fainted."

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